

## **Broads Forum**

### **AGENDA**

**30 July 2015**

**2.00pm**

	Page
1. <b>To receive apologies for absence</b>	
2. <b>To confirm the appointment of Chairman and Vice-Chairman</b>	
3. <b>Chairman's announcements:</b>	
(i) Report back from Broads Authority meetings on 15 May and 10 July 2015	
(ii) Public Recording in Meetings	
(iii) Any Other Announcements	
4. <b>To receive and confirm the minutes of the meeting held on 30 April 2015 (herewith)</b>	1 – 7
5. <b>Public Question Time</b> To note whether any questions have been raised by members of the public	
6. <b>Summary of Progress/Actions/Response Taken following Discussions at Previous Meetings</b> Report by Administrative Officer (herewith)	8 – 9
7. <b>The Future of Angling in the Broads and the Adverse Results of Prymnesium</b> Presentation by Tony Gibbons	10 – 14
8. <b>Hickling Project Development</b> Report by Director of Operations (herewith)	15 – 32
9. <b>Riverbank Stabilisation and Mooring Guides</b> Report by Planning Policy Officer (herewith)	33
10. <b>Broads Plan 2011: Progress and Review</b> Report by Director of Planning and Resources (herewith)	34 – 52
11. <b>Chief Executive's Report</b> Report (herewith) for information	53 – 55

12. **Parish Issues**  
**Standing item for local community members to report**
13. **Current Issues**
14. **To note whether any items have been proposed as items of urgent business**
15. **Matters for Chairman to raise at next Broads Authority meeting**
16. **Matters to be discussed at the next meeting**
17. **To note the date of the next meeting – Thursday 5 November 2015 at 2.00pm at Yare House, 62-64 Thorpe Road, Norwich**

## **Broads Forum**

Minutes of the meeting held on 30 April 2015

### **Present:**

Dr Keith Bacon in the Chair

Mr Andrew Alston	Mr Robin Godber	Mr Peter Medhurst
Mr Brian Barker	Ms Barbara Greasley	Mr Bryan Read
Mr Michael Flett	Mr John Hiskett	Mr Richard Starling
Dr Martin George	Mr Brian Holt	Mr Charles Swan
Mr Tony Gibbons	Mr John Lurkins	Mr John Tibbenham

### **In Attendance:**

Ms Esmeralda Guds – Administrative Officer  
Ms Andrea Kelly – Senior Ecologist  
Ms Andrea Long – Director of Planning & Resources  
Dr John Packman – Chief Executive  
Mr Neil Punchard - Broadland Catchment Partnership Officer

### **Also in attendance:**

PC Paul Bassham - Broads Beat Officer  
Mr Giles Bloomfield - Farming/Landowning and Drainage Interest Group  
Prof Jacque Burgess – Chair, Broads Authority

### **4/1 Apologies & Welcome**

Apologies for absence were received from Ashley Cato and his substitute Paul Gurbutt, Henry Cator, Philip Pearson, Simon Partridge and Hugh Taylor.

The Chair welcomed Jacque Burgess and congratulated her on her new appointment as Chair of the Broads Authority and welcomed Giles Bloomfield to the meeting who was standing in for Henry Cator.

### **4/2 Appointment of Chairman and Vice-Chairman**

The Chief Executive invited nominations for the appointment of the Chairman to the Committee.

Peter Medhurst (PM) nominated, seconded Michael Flett (MF), that Keith Bacon be appointed as Chairman. No other nominations were forthcoming.

RESOLVED

that Dr Keith Bacon be appointed as Chairman of the Broads Forum.

### **Dr Keith Bacon in the Chair**

The Chairman invited nominations for the appointment of Vice-Chairman to the Committee.

Peter Medhurst (PM) nominated, seconded Tony Gibbons (TG), that Michael Flett be appointed as Vice-Chairman. No other nominations were forthcoming.

RESOLVED

that Mr Michael Flett be appointed as Vice-Chairman of the Broads Forum.

#### **4/3 Chairman's Announcements**

The Chairman reported on the Broads Authority meetings of 20 March 2015 and the issues discussed including:

- (1) Stakeholders Survey Action Plan – series of workshops to be arranged
- (2) Strategic Direction and Priorities
- (3) External Funding Opportunities
- (4) Consultation on the River Basin Management Plan

#### **4/4 To receive and confirm the minutes of the meeting held on 5 February 2015**

After a minor change the minutes of the meeting held on 5 February 2015 were confirmed as a correct record and signed by the Chairman.

#### **4/5 Public Question Time**

No questions had been raised by members of the public.

#### **4/6 Summary of Progress/Actions/Response taken following discussions at previous meetings**

A report summarising the progress of current issues was received.

The Director of Planning and Resources updated members in relation to Ludham footpath to St Benet's that after all the agreements had been sent out to the landowners, one agreement had been received back and two more were still to be expected.

MF fed back on a meeting he attended in relation to Ludham Bridge and informed members that BESL had extended the lease for another year which

meant there would be no car park in the near future and the grounds might still be used as a compound by BESL for the next year.

Members noted the report.

#### **4/7 Theft in the Broads and the Role of Broads Beat**

Members were given a presentation by PC Paul Bassham (PB), who explained about his role as a Broads Beat officer and the service they provided. Members were informed that as the tourism industry grew, more police presence was required on the Broads and therefore Broads Beat was established about 20 years ago, now comprising 10 officers and two boats.

Officer PB explained that although they attend events and shows, their main role was fighting marine crime, which was rising, in particularly organised crime originating from East Europe.

Members were made aware of 'stolenboat.com', a useful website used by the police and insurance companies and free to all users.

It was further explained that as Broads Beat was only a small unit they sometimes doubled up with Broads Authority rangers.

Richard Starling (RS) enquired if Broads Beat had experienced any reductions in their budget, to which PC Bassham answered that Broads Beat was the longest running sponsorship in the UK and that everything but their wages was funded through sponsorship and therefore budget cuts had not affected them.

In response to a question from Charles Swan (CS) PC Bassham responded that intelligence was shared with Suffolk Police and that they had a close working relationship.

To a question of Brian Barker (BB) if there were any figures on crime success rates, PC Bassham answered that their team was generally on top of crimes committed locally but that they were struggling with organised crime originating from abroad as sharing intelligence with Interpol and police officials from other countries had been difficult.

Members welcomed the presentation.

#### **4/8 The Broads Society: Broads Heritage Boats**

Members received a discussion paper from the Broads Society proposing a reduced toll or toll exemption for classic and heritage broads built boats to support the owners of such vessels. The report suggested a second proposal to levy a surcharge on large twin-engined boats which allegedly cause damage to the river banks and habitats, as a way of filling the funding gap the first proposal would create.

Brian Holt (BH) said that the Canal and River Trust already offered discounted toll on heritage boats and believed that charging extra tolls on twin-engined boats would alienate them.

Peter Jeremy (PJ) believed as the toll was only a small percentage of the high cost of maintaining a heritage boat there would not be much benefit in reducing or exempting payment of the toll. He continued that offering free mooring during the winter months would be more effective and would understand if larger boats would be charged more as they take up more space.

Barbara Greasley (BG) agreed that toll was only a relatively small cost and acknowledged that wherries could be exempt but did not believe private owners of heritage boats should receive discounted tolls as they choose to own them.

MF believed that establishing who would and who would not be exempt from tolls would be challenging process and recognised that this would mean a complex system for the Broads Authority to manage.

John Tibbenham (JT) mentioned that the majority of heritage boats from before the war did not originate from the Broads and would like to know whether twin engines were really the issue.

Although Bryan Read (BR) agreed with Robin Godber (RG) and would like to support the heritage boats and see them survive. He did not believe discounted tolls would be the appropriate.

PM agreed and suggested that organising events and making the public aware of the heritage vessels and encourage industries to carry on making these boats might be a better way of addressing the issue.

Though members agreed they would like to see the existence of heritage boats and the needed skills continue, the Forum did not believe the suggested proposals were the right way forward and therefore decided not to support them.

RG explained his intention was to support a way for heritage boats to continue to exist but acknowledged the members comments and thanked them for their views.

#### **4/9 A Review of Lake Restoration Practice and their Performance in the Broads National Park**

Members received a report and a presentation outlining a review of Lake Restoration practice and their performance in the Broads Authority National Park from 1980 - 2013.

In response to Keith Bacon's (KB) question the Senior Ecologist responded that household sewage has the potential to cause a problem in some

waterbodies and that input from unsewered domestic properties have the potential to become a larger part of the problem as diffuse pollution is tackled from other sources .

Although Andrew Alston (AA) believed that septic tanks and not farming were causing the problem, the Senior Ecologist said that the input of unsewered domestic properties was still lower than that of farming and mains sewage. She further explained that further phosphate reduction was needed in the Rivers Ant and particularly the Bure to allow the water to be clear enough to promote the recovery of the healthy waterways.

RS mentioned that although he was impressed with the Lake Review Workshop he was disappointed they did not seem to have much knowledge of water movement. Senior Ecologist agreed that more survey and research understanding was required for water flows in certain lakes and that Norfolk Wildlife Trust had agreed to consider what more they could do to collect more data on the sites they own and manage.

MG believed it was very important not to lose sight in getting Hickling as the largest and richest broad clear again.

Giles Bloomfield (GB) stressed that landowners were looking for a solution and that a partnership meeting had been scheduled before August 2015. Also landowners were not looking to add anymore fertilizers than the crops require

MG mentioned that the poor water quality in Hickling Broad could be managed by pumping water out to sea and although this would be very costly the Senior Ecologist recognised that an engineering plan would most probably be part of the solution.

She further explained, in response to why in the case of some freshwater broads it would be useful to temporarily remove certain fish, a technique called biomanipulation was used as this created clear water.

Members welcomed and noted the report.

#### **4/10 Broadland Rivers Catchment Plan Update**

Members received a report summarising the progress of actions in the Broadland Rivers Catchment Plan and outlined the Catchment Partnership Action Fund 'Slow the Flow' project application for 2015/16.

The Catchment Officer informed members that the application to Defra had been successful and explained how Rural Sustainable Drainage System (RSuDS) could reduce water run-off from rural and urban areas into SSSIs, encouraged more infiltration into the ground and potentially reduced localised flooding.

AA enquired if the Broads Authority was insured and if farmers were safe to follow their advice to which GB responded that sediment traps did work and

could be cost effective but explained that although landowners were covered for the construction of the RSuD, which was relatively inexpensive, there were implications for maintenance costs, which could be higher than the installation costs. The Catchment Officer agreed that if landowners were prepared to cover the maintenance cost they could be offered up to 100% of the installation cost and there were potential opportunities to work with the Internal Drainage Boards.

Members supported the progress of the Broadland Catchment Partnership and the proposed project and recognised the on-going importance of seeking external funding to continue to progress the Broadland Catchment Based Approach beyond March 2016.

#### **4/11 Chief Executive's Report**

The Chief Executive presented his report, which summarised the current position of the Authority's strategic priorities.

The Chief Executive updated members that Michael Whitaker and James Knight had been appointed as Chair and Vice-Chair of the Navigation Committee and co-opted members to the Broads Authority.

The Chief Executive further updated members with progress being made on the Harbour Revision Order which is moving forward, although not very rapidly.

Members noted the report.

#### **4/12 Parish Issues**

BB raised the same concern as he had done in the previous meeting which was that professional signs were required at moorings in West Somerton advising visitors where the nearest available waste facilities were located. The Chief Executive undertook to look into the matter,

#### **4/13 Current Issues**

Members in general were concerned about the fish kill and the Prymnesium outbreak.

TG believed that although the fish stocks itself would recover, fish kill would in the meantime, apart from affecting the feeding habit of wildlife, also have a detrimental effect on the economy.

The Chief Executive responded that BA had recently been involved in a meeting with the Environment Agency and Natural England to review the situation and that a briefing note for members would be circulated soon. He informed members that EA and NE were fully aware of the issues and that the BA was supporting them in managing the situation. The Chief Executive reminded members that the fish kills occurred from time to time and that the



system generally resolved itself and that it was important to get the message out that the Broads was still open for business.

GB added that the Internal Drainage Board was also trying to help and resolve the issue by controlling the ground water.

**4/14 To note whether any items have been proposed as items of urgent business**

No items were proposed as items of urgent business.

**4/15 Matters for Chairman to raise at next Broads Authority meeting**

The Chairman would report to the Broads Authority meeting on the various issues discussed by the Forum.

**4/16 Matters to be discussed at the next meeting**

TG suggested to give a presentation on Angling on The Broads and to see where this was going in the future.

**4/17 Date of Next Meeting**

To note that the date of the next meeting will be Thursday 30 July 2015 at 2.00pm at Yare House, 62-64 Thorpe Road, Norwich.

The meeting concluded at 5.10 pm

Chairman

**Summary of Progress/Actions/Response Taken Following Discussions at Previous Meetings**  
Report by Administrative Officer

<b>Date of Meeting and Minute No</b>	<b>Discussion</b>	<b>Responsible Person</b>	<b>Summary of Progress</b>
31 July 2014 Minute 4/15 <b>Current Issues</b>	The proposed permissive footpath from Ludham to St Benet's Abbey had still not been formally opened as reaching signed agreement with all of the landowners had been taking longer than expected, however it had been agreed informally with all landowners and therefore he anticipated it could be in place soon.	Senior Waterways & Recreation Officer	Broads Authority's property advisers have issued draft agreements to the landowners involved with a proposed commencement date of 1 May 2015.  Landowners are now happy with the terms of their individual agreements and our solicitors have sent final engrossed agreements to them for signature.
6 November 2014 Minute 2/5 <b>Summary of Progress</b>	Outcome of future plans for the Ludham Bridge area which have been discussed with the Environment Agency	Senior Waterways & Recreation Officer	Officers have had further discussions and correspondence with the Environment Agency and the position remains that we are waiting for the EA property department to get back to us.
5 February 2015 Minute 3/10 <b>Parish Issues</b>	Any progress made with the Harbour Revision Order.	Director of Operations	We have now had confirmation that ABP has approved the tripartite. The document is being engrossed and will be circulated to ABP, then Suffolk County Council and finally Broads Authority for signing. The HRO (the initial

<b>Date of Meeting and Minute No</b>	<b>Discussion</b>	<b>Responsible Person</b>	<b>Summary of Progress</b>
			statement which starts the process) will be submitted when the tripartite has been signed.
30 April 2015 Minute 4/12 <b>Parish Issues</b>	Replacement of signage at moorings in West Somerton re waste disposal	Asset Officer	Waste signs for all moorings are currently being designed and produced by Communications

## The Future of Angling in the Broads The Adverse Results of Prymnesium

Presented by the



BASG - 30th July 2015

### A Brief Induction -

The BASG was formed in 2000, it was founded by a group of local anglers who volunteered their services to consider ways of retaining and promoting angling in the Broads area. There were many points taken into consideration, but most important ones are listed, these formed the basis of the BASG objectives.

They were:

- 1) Maintain and improve all aspects related to angling  
(Bank access and Urban fishing)
- 2) Improve Information and Education
- 3) Resolve and conflict of interest

In 2012 the BASG became a fully constituted body and in 2013 it affiliated to the Angling Trust. Since then the list of the BASG's area's of importance have been greatly increased to include points that are very relevant to today's environment, working with all bodies concerned as listed below.

- |  |
|--|
| <ul style="list-style-type: none"><li>① Maintain and improve boat &amp; bank angling opportunities</li><li>② Address and resolve conflicts of interest</li><li>③ Maintain access &amp; anglers legal rights</li><li>④ Maintain and improve slipway facilities for small boats</li><li>⑤ Maintain and improve the urban fishery</li></ul> |
| <ul style="list-style-type: none"><li>① Improve angling Information &amp; Education</li><li>② Consultation</li><li>③ Effective involvement &amp; liaison</li><li>④ Encourage newcomers to the sport and support young anglers</li><li>⑤ Improve out of season visitor numbers to the Broads</li></ul>                                    |
| <ul style="list-style-type: none"><li>① Understanding fish stocks in the Broads</li><li>② Fisheries Enforcement &amp; Regulation</li><li>③ Tidal surges</li><li>④ Toxic algae <u>Prymnesium</u></li><li>⑤ Predation</li><li>⑥ Invasive species</li><li>⑦ Managing &amp; adapting to climate change</li></ul>                             |

The BASG has achieved numerous successes relating to the above - These were reviewed at it's April meeting and include:



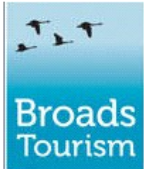
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Kelvin appointed  
BA Member Apr 2013  
Wider BA Committee  
Representation



1 2

Broads Angling  
Strategy Published  
June 2013



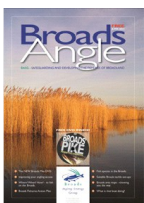
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Partnership with  
Broads Tourism 2013



5 2 5

Tourism Business Case  
Created 2013



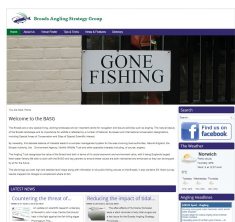
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Grant of £15,000  
Broads Angle  
Published 2013



1

Grant of £10,000  
BASG Web Site 2014



1 2 3

New BASG Website  
Avg 100 hits per day  
basgonline.org



2 1

Angling Recognised  
within BA Strategy  
2014



1 2 3

Broads Bank Side  
Ownership Survey  
Our rights of Way



1 3

New Access  
Partnerships with  
RSPB



5 3

Agreement with  
Norwich City Council



5 3

Support for Train  
Wood - Norwich



1 3

Broads Pike Tagging  
Project



4 3

Hickling Staithe Open  
New Slipways agreed  
Awaiting Funds



3 3

Salinity Monitoring  
Partnership



3 1 1

Reducing the impact of  
tidal surges



1 3 5 1 3

Broads Hydro acoustic  
Surveys



4 1 2 3

Prymnesium -  
Getting the message  
across

Angling is and always will be a recreation enjoyed by many millions of people of all age groups. We are fortunate in Broadland as we have the "Best Free Fishing" in the country set in a glorious landscape attracting many visitors. Obviously not all come to fish, but those that do, when bringing their families; which most do, add a considerable contribution to the local economy. Currently estimated around £100m  
*(Based on 2014 STEAM data and the BA visitor survey)*

Therefore we need good publicity.

Regarding angling and its attraction to bring visitors to the Broads, the recent adverse publicity given by the press and media relating to the "Fish Mortalities" in March and April in the Upper Thurne resulting from Prymnesium, led to many people including potential visitors questioning whether this would have an adverse affect on fishing and habitat in and around the area. Pressure from BASG lead to the Environment Agency undertaking sonar surveys of the affected area, prior to the start of the fishing season and issuing a press release on the potential positive findings.

However you can't beat actual people catching fish as evidence and since 16th June these early indications show lower than expected catches upstream of Martham Ferry and considerably less fish in the river from Martham to Potter Heigham. Lower down the Thurne from Womack to Thurne Mouth and into the Bure the river(s) are very well populated and catches are high.

This is a sure indication that the affect of Prymnesium in area's where it was most prolific has had detrimental result and will no doubt take a considerable time to replenish fish stocks.

BASG continues to take an active role in understanding the complex Prymnesium research and what measures can be put in place to protect the valued fish stocks in the Upper Thurne. Working groups have been established to implement a number of actions and work strings with the respective agencies.

In order to continue to encourage many visitors to the Broads and also to hopefully get many more locals to enjoy all it's glorious aspects, especially angling. There are challenges that the BASG and other parties need to address.

The BASG realise that "Finances" are not always available to carry on with the many functions, previously taken as granted, ie Refuse Collection, Bank Maintenance, Path Clearance etc.

However if we want to attract more people we must provide an environment that they can enjoy.

BASG see the following as being key strategic challenges for the future, working in liaison with all major bodies and with co-operation from all other concerned parties in the Broads. The BASG will continue to strive to achieve it's strategic objectives.

## The Challenges.



4 1

Encourage newcomers  
Family Fishing Events



5 1

Encourage more  
visitors in low season.



Working with  
Broads Tourism



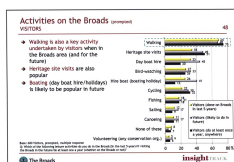
1 5 1

Future funding  
Sustaining the Broads



3

Grow membership  
Get people involved



1 5 1

Expose and use the  
economic value of  
angling, some £100m



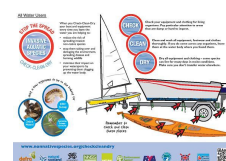
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Prymnesium  
Causes Impact  
Protection



1 4 2 7

Adapting to Climate  
Change



6 1

Invasive species





3 7

Tidal surges  
Acle Dyke Dec 2014



2 3 3 2

Anglers loss of fishing  
Rights and Access



2 1

Fisheries Enforcement  
National VBS



2 3 2 1

Bio manipulation

The Angling Trust with BASG support are holding one of their regional forum(s) in Norwich on the 22nd July focussed on some of these challenges, with experts from the Environment Agency, Natural England and BA presenting what this means to anglers in terms of short, medium and long term challenges to the Broads.

## Conclusion

The Broads angling continues to hold it's own in terms of the economic value, but the challenges on how this can continue without the lack of sustainable investment is concerning. Perhaps this is time to consider a new economic model for angling.

The complex environmental conditions which enables the growth and blooms of *Prymnesium* leading to toxin release are also a key concern, there remains many unanswered questions.

Much of these look like becoming the norm with the challenges from climate change and continued poor engagement with anglers on the ground.

Compiled by  
Tony Gibbons & Kelvin Allen  
BASG



**Hickling Lake Enhancement Project Proposal**  
Report by Director of Operations

**Summary:** This report sets out the details of a proposal for a master plan project for the enhancement of Hickling Broad. It sets out the background and context to the project, as well as explaining the stakeholder involvement to date. The views of the Forum are sought in refining the proposal prior to further consultation with Broads Authority committees.

## **1 Background**

1.1 The Broads Authority has identified as a strategic objective for 2015/16 to:

*‘Develop a long-term approach for the management of Hickling Broad, building on scientific evidence from the Broads Lake Review. In the short term, progress development of a number of smaller projects to meet immediate concerns.’*

1.2 Members of the Broads Forum have previously received a report on the outputs of the Lake Review, which was carried out to provide a comprehensive scientific assessment of all previous lake restoration work in the Broads and its impacts and effectiveness.

1.3 The Review report includes a dossier in respect of Hickling Broad, which reviewed all known data as a case history. This lead to a consideration of future management options in the context of the following points:

- Hickling cannot be viewed in isolation and is highly responsive to management and agricultural usage within the catchment of Horsey Mere
- External factors which cannot be controlled, such as weather conditions and bird numbers, are likely to influence the effectiveness of any management activities
- Water plants respond to, but also promote changes in, environmental parameters so underlying mechanisms can prove hard to discern
- Although the mechanisms which originally switched the lake are well understood, the decline of Chara and other vegetation species in Hickling in the early 2000's cannot be explained with any certainty, and therefore the confidence in the effectiveness of any form of management is low.

Three groups of options were identified, none of which should be considered exclusive:

1. Changes in catchment management through conversion of arable land to pasture and changes to shallower drainage would lead to reductions in iron, phosphorous and salinity inputs to the benefit of Horsey Mere and Hickling Broad
  2. Source control, possibly accompanied by increased freshwater input from redirecting water from surrounding land drainage management, would lead to reduced salinity and phosphorous inputs and possibly increased flushing and dilution;
  3. Sediment removal – whilst the nutrient reduction potential of sediment removal is unlikely to be significant, there may be benefits to bed stabilisation, seed bank exposure and habitat creation using dredged material.
- 1.4 The Broads Authority continues to work with partners through the Internal Drainage Board led Brograve Partnership and the wider Broadland Rivers Catchment Partnership on the development and support for adoption of catchment measures to improve the aquatic environment. Although it is recognised that the source control measures provide a more sustainable solution and can contribute a wider range of benefits beyond food production, they are voluntary. In addition any changes to water level and agricultural management need to be made with these long term benefits in mind as they are likely to be high cost. The Authority is therefore additionally promoting measures to enhance the lake in the shorter term, for the benefit of all interests.

## **2 Project Development**

- 2.1 In order to develop a long-term approach for the management of Hickling Broad it has been useful to look to review the current adopted vision for Hickling which is captured within the Upper Thurne Water Space Management Plan. The intention is to develop an interim vision which could be delivered in the short – medium term pending further catchment measures.
- 2.2 A workshop was held with the Upper Thurne Working Group (UTWG) in early June 2015 which reviewed the baseline data and also considered the opportunities and issues that a lake enhancement project could promote. Using the workshop outputs a project proposal document which includes a revised interim vision statement has been drafted and is attached as Appendix 1. Further consultation is taking place with the UTWG and will be reported verbally.

## **3 Project Plan and Timescales**

- 3.1 Further to the Broads Forum views, further consultation will be carried out with the Navigation Committee prior to the master plan being considered by the Broads Authority to endorse the approach.

- 3.2 Initial works to complete erosion protection at Hill Common and undertake some dredging at the north end of the navigation channel are due to be carried out in October 2015, subject to Natural England consent. This will also be a useful trial of the Nicospan technique for providing bankside protection and stabilisation.
- 3.3 It is proposed that other elements of the vision would be delivered in a phased approach, subject to funding availability and individual planning and other consents as required. To deliver the vision as a whole is likely to be a medium – long term commitment of up to 10 years.

#### **4 Funding implications**

- 4.1 The Authority is currently investigating the possibility for European external funding and has submitted an Expression of Interest form for Interreg North Sea Region funding with a number of European partners. A costed proposal will also be included in the report to the Navigation Committee to investigate the potential of match funding using toll income. Their views will be reported to the Broads Authority along with a recommendation to make a contribution from the National Park Grant.

#### **5 Desirable Outcomes**

- 5.1 It is envisaged that the outcomes from the delivery of this project would include;
- improved aquatic environment in sheltered bays providing more reedbed, better water quality, water plants and higher numbers of water birds
  - beneficial reuse opportunities for dredged material
  - increased expertise and understanding in matters relating to water quality in Hickling Broad, including dealing with Prymnesium
  - improved understanding by local communities, visitors and partners of the requirement to, and importance of, undertaking integrated water management projects to enhance the special qualities of the Broads.

Background papers: None

Author: Trudi Wakelin  
Date of report: 7 July 2015

Broads Plan Objectives: BD4.1

Background papers: APPENDIX 1 – Project proposal

## Hickling Lake Enhancement project proposal

### **Background**

The Broads Authority has identified the following strategic objective for 2015/16:

‘Develop a long-term approach for the management of Hickling Broad, building on scientific evidence from the Broads Lake Review. In the short term, progress development of a number of smaller projects to meet immediate concerns.’

The Lake Review included a dossier on Hickling Broad, which reviewed all known data through case history. This led to a number of conclusions:

- Hickling cannot be viewed in isolation and its water quality is highly responsive to the drainage and agricultural management within its general catchment, but especially of Horsey Mere
- External factors which cannot be controlled, such as weather and tidal conditions and bird numbers, influence the effectiveness of any management activities
- Water plants respond to, but also promote changes in environmental parameters, so underlying change mechanisms can prove hard to discern
- Although the mechanisms which originally switched the lake are well understood, the decline of Chara and other vegetation species in Hickling in the early 2000's cannot be explained with any certainty, and therefore the confidence in the effectiveness of any form of management is low.

Three connected management options were identified;

1. Changes in catchment management through conversion of arable land to grazing pasture and conversion to shallower drainage would lead to reductions in iron, phosphorous and salinity inputs to the benefit of Horsey Mere and Hickling Broad,
2. Source control, possibly accompanied by increased freshwater input from the Catfield catchment, would reduce phosphorous inputs and improve flushing and dilution,
3. Sediment removal – whilst the nutrient reduction potential of sediment removal is unlikely to be significant, it may create benefits of bed stabilisation, seed bank exposure, and habitat creation using dredged material.

The Broads Authority continues to work through both the Internal Drainage Board led Brograve Partnership and the wider Broadland River Catchment Partnership to adopt catchment measures aimed to improve overall water quality in the rivers, broads and dykes. Although it is recognised that the source control measures provide a more sustainable solution and can deliver wider range of benefits beyond food

production, they are voluntary. In addition any changes to water level and agricultural management need to be made with these long term benefits in mind as they are likely to be high cost.. The Broads Authority is therefore promoting measures to enhance Hickling Broad in the shorter term, for the benefit of all interests.

## **Proposed Vision**

In-lake enhancement measures have resulted in refuge areas in quiet bays and sheltered areas, which provide conditions for macrophytes to flourish and suitable habitat for fish and birds. These areas are managed for their habitat and wildlife conservation value. The navigation channel is managed to maintain agreed depth and water plant cutting specifications, to allow boat users to access the staithe and local businesses, as well as to enable the local clubs to enjoy their recreational activities. Dredged material is deployed beneficially, with sediment used to restore eroded reed swamp, construct lake side bank protection, and regularly top up bank restoration and island areas, as well as being spread to local arable land. Regular monitoring continues to build scientific understanding of the lake and its management. Partnership research is continuing in order to gain an understanding of the ecological dynamics of Prymnesium and to run trials to reduce nutrient and salinity inputs from the catchment.

## **In Lake Enhancements**

Appendix i lists a review of potential benefits for a sediment removal programme and its relevance to Hickling Broad, and reviews the benefits in the context of the Authority's statutory purposes.

To develop these proposals the Authority consulted the Upper Thurne Working Group at a workshop event on 9 June 2015, where the context of the Lake Review and current baseline data were presented. This Group includes representatives of key stakeholders, including statutory bodies (EA/NE/IDB), user groups (sailing/angling/windsurfing), RSPB, local parish council and business interests, landowners (NWT/NT/Mills Estate).

With the objective of seeking to develop a multiple benefit project that will deliver a range of enhancements in the short term for Hickling Broad, the workshop considered opportunities and possible risks. A high level of consensus was achieved over the following projects:

- **Dredging of the navigation channel** – here the priority is the necessary dredging at the north end of the channel to maintain essential access to the staithe, businesses and facilities in the area. It was also agreed that the channel could be used as a silt trap to draw mobile sediment from the surrounding areas, and the effectiveness of this as a technique should be monitored.
- **Bank restoration works** – benefits were recognised to restore eroded banks around the perimeter of the broad, to reduce erosion and sediment input, to create new edge habitat and to increase shoreline complexity helping biodiversity.

- **Creation of refuge area** – the creation of refuges was noted to be of benefit to allow water plants to recolonise in the sheltered areas, improve habitat and to provide refuges for fish as well as for birds. Specific areas suggested included Churchill's Bay and to extend Pleasure Island. Additionally, a further suggestion was to trial the installation of a groyne or spit construction to act as a barrier to reduce the fetch and allow natural accretion of sediment to form an island feature.
- **Beneficial reuse of sediment** – it was agreed that material arising from dredging activities should be used beneficially where possible, either in the construction of bank restoration or for island features, or by land spreading to agricultural land.
- **Research needs** – there is a need to carry out initial research as part of the feasibility phase, to include investigations into fish populations and usage and to confirm the presence of any spawning/ nursery areas in the proposed footprint of the dredging/ construction works. Cooperation with current and future Prymnesium research will also be required throughout the life of the project to include the sharing of all water quality data and field trials of a mobile toxicity test. Subject to the views of stakeholders it may also be appropriate to undertake small scale trials of sediment removal to determine any benefit to propagule germination or bio-manipulation in enclosure areas.

The following principles were also agreed;

- Works should be carried out in accordance with the agreed strategic vision, with strategic consents/ licences gained where possible
- Experimental works should proceed only following successful small scale trials
- A phased approach to the delivery of the vision should be adopted
- Robust and thorough monitoring will be required to collect data on the impacts and successes of the project delivery
- In lake reconstruction works should largely follow the historic 1946 lines
- Precautionary approaches should be adopted – including agreed mitigation measures/ timings etc.- so that there is no avoidable delay due to lack of full scientific certainty. Hence the purpose of well-monitored and phased research pilots leading to full scale experiments

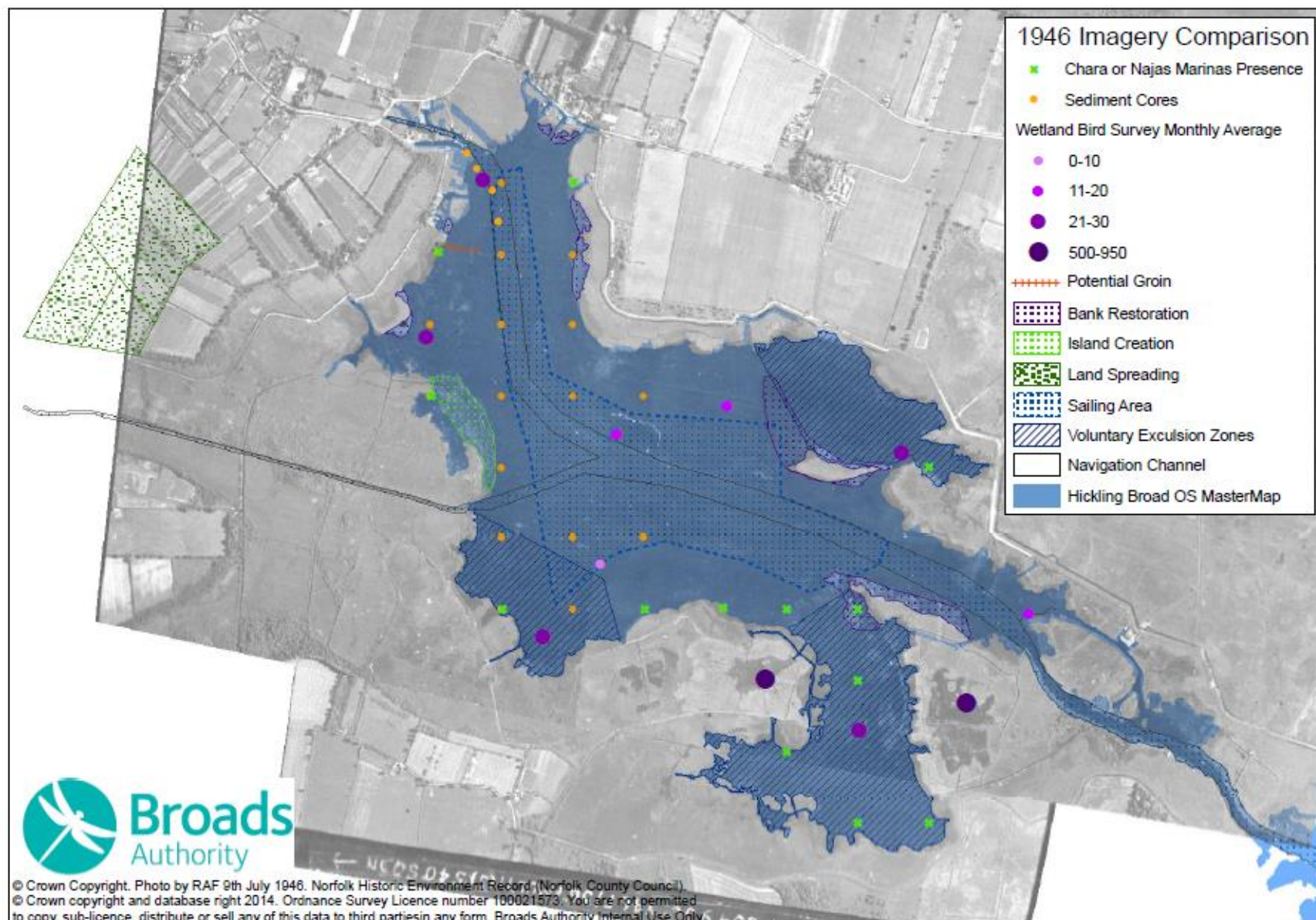


Fig 1

The delivery of each of these project areas will result in improved conditions for the environment, for navigation and for recreation. Local socio- economic benefits from the works will also be generated, as well as improved understanding of the ecological functioning of the lakes.

Figure 1 shows the proposal in a visual layout, and identifies the environmentally sensitive features of the site. Feasibility work in autumn 2015 is being carried out to determine ground conditions and appropriate engineering designs to inform the proposed priority phasing. This may include trial stages for differing techniques/materials/designs, as well as indicating the anticipated timescale for delivery. Examples of previous techniques used in the Broads are included in Appendix ii.

It is proposed that each element would be delivered individually and would therefore be subject to separate funding arrangements unless significant external funding can be won. Individual planning consents will also be required. These will include detailed design and methodology based on full consultation. It is anticipated that each element will be delivered as part of a phased approach to delivering the whole vision and to ensuring multiple benefits. An initial 'trial' to demonstrate that any innovative design will work successfully will be assessed before larger scale activity / works take place on a phased basis.

A robust evaluation and monitoring strategy has been developed to identify the parameters that will be evaluated and the schedule of data collection. See Appendix 2. The analysis of the data will help to inform both the design of each element as well as the impact of the works

The Broads Authority's consultative committees (Broads Forum and Navigation Committee) will also be involved to help shape the vision prior to seeking the views of the Planning Committee and the endorsement of the Broads Authority.

### **Potential impacts**

Key considerations for the proposal are likely to relate to hydrology, landscape impact, ecology and habitat considerations, and the impacts on water space and navigation (including in relation to use of dredgings). An initial assessment against these aspects and the relevant policy framework has been completed below;

### **Broads Core Strategy DPD**

Policy CS1 – Landscape protection and enhancement – the project will help to restore landscape features such as islands which have been lost to erosion as identified in the 1946 aerial photographs. Bank protection measures will safeguard the site from further erosion, and recreate lost reed bed and open water mosaic habitat.

Policy CS3 – Navigable water space – the project will allow the navigation channel to be dredged so as to secure access to the staithe, as well as to reduce the long term need for dredging by reducing sediment input from bank erosion. Navigation hazards such as island remnants which currently need to be marked as a hazard will be removed by being restored using dredged sediment. This will also remove the need



for visually intrusive marking. Monitoring will determine the benefit to the wider open water of dredging the navigation channel and using it as a silt trap to draw in mobile sediment from the surrounding area. Innovative solutions such as groyne/ palisade will be tested to measure their effectiveness as low cost, sustainable measures to help manage sediment. Successful schemes may be replicated elsewhere.

Policy CS4 – Creation of new resources. The proposed island restoration or creation would, as well as creating new reed bed, establish refuge areas where water plants, fish and birds would be able to flourish. This would be enhanced as a result of lower turbidity from reducing the fetch over the water which generates wind induced sediment disturbance, and also as a result of separation from boating activity. This should help to provide new areas for species, particularly those of conservation priority to extend their range in the Broad.

Policy CS15 – Use of dredging – the project has been designed to beneficially reuse sediment from the Broad. An assessment of engineering properties will be carried out. But it is proposed that very loose unconsolidated material will be pumped to adjacent, arable land for land spreading, or within lagooned areas, for bank reinstatement or island creation. Firmer material will be used directly within construction elements. This may also include the reuse of historic sediment from previous deposits on the lake banks. The design of the phasing will take account of the need to return to each area following consolidation of the dredged sediments, so that topping up can maximise the capacity in each area as well as ensuring that final levels are suitable for reed bed restoration.

Policy CS20 – Flood risk – as the new habitat features will be created at or below high water, and will be constructed from material dredged from the water body. There should be neutral impact on water levels, and hence no increased flood risk to adjacent communities. The developments are all located within the waterbody, so any future plans for flood risk mitigation measures would not be impaired.

## **Broads Development Management Policies DPD**

Policy DP1 – Natural environment – the proposal will improve the mosaic of open water and reed bed and complexity to the lake edge which will result in greater number of niches for wetland species such as fish and quiet feeding area for bittern. Restoration of areas of reed bed will minimise further sediment input into the open water with added beneficial impact for the open water environment, as well as creating refuge areas for water birds and water plants by introducing shelter areas.

Policy DP13 – Bank protection – by including bank protection within the proposal on areas that have significantly eroded since 1946, further erosion will be arrested. This will help to protect the land and to benefit the water environment by removing a diffuse source of sediment input. Soft techniques will adopted such as geotextiles or gabions, in preference to adopting a piled edge, and vegetation will be established. Appropriate temporary navigation marks will be included until the vegetation is fully established to provide a clear visual indicator of the new edge.

Policy DP29 – Development on sites with a high probability of flooding – the features created will be designed in such a manner as regularly to inundate designed

floodable areas, to ensure that the desired vegetation is supported and to prevent the growth of scrub. As the development will be at or below high water, and will be constructed from material dredged from the water body, there should be a neutral impact on water levels and therefore no increased flood risk to adjacent areas.

This project is necessary to support the socio economic needs of the local community, by maintaining access to the village by boating visitors to the boatyard and local pubs, and also to ensure that the local recreation clubs such as sailing and windsurfing can continue to enjoy their activities. The Parish Council has recently invested in improvements to the staithe and slipway area. Numerous complaints have been received from local people about the current lack of maintenance dredging which is adversely affecting their activities.

Function	Comment	Benefit for dredging for			Other benefits
		conservation	navigation	promoting enjoyment	
Reduction of internal loading	Non-retentive sediment due to competitive binding of iron by sulphide. Therefore internal loading is naturally limited	Low	Low	Low	
Increased water depth	Hickling is shallow and turbid (unless dominated by plants). Deepening is unlikely to improve submerged light climate unless there is an accompanying equivalent reduction in turbidity. Current dominant species have rhizomes and independent of light regime but could be reduced unless dredging avoids existing beds.	Low	High	High	High benefit for tourism by improving access in navigation channel to local businesses and local community. Additional benefits also for angling, nature watching, tourism, landscape value by increased access through restoration of water depth in agreed areas and reduction of mechanical disturbance by boats in shallow water which has the potential to trigger prymnesium event through ongoing release of nutrient (unproven)
Bed stabilisation	Wind and boats stirring up the sediment is a source of turbidity. Increasing depth by removing fine sediment should increase clarity. Hickling sediment is, however, already comparatively cohesive and unlikely to limit water plants.	Mod	Low	Mod	Moderate benefit for angling, nature watching, tourism, landscape value by increased water clarity
Propagule bank exposure	Hickling historically dominated by water plants, some seeds may germinate after sediment removal.	Mod	Low	Mod	Moderate benefit for angling, nature watching, tourism, landscape value by increased water plants
Bank reclamation	Opportunity to reclaim and restore sections of eroded bank, especially in areas of reed dieback and goose grazing. Potential benefits to water plants through increased shoreline complexity and reduced wave reflection from steep eroded banks.	High	High	High	High benefit for navigation by lower bank erosion High potential benefit for angling dependant on location and design delivering improved fish habitat High benefit for nature watching, tourism and landscape value by increased reed edge High benefit for landowners to prevent loss of land/reed area
Contaminant removal	Opportunity to reduce the concentration of heavy metals (copper, tin).	Low	Low	Low	low benefit as tests indicate low levels of heavy metals
Creation of hydraulic refugia	Water plants are likely to colonise sheltered bays. Imaginative use of dredged material to create bunds or islands could significantly increase shelter and help water plants re-establish.	High	Mod	High	Navigation benefit dependant on location e.g. island over a navigation hazard may be high benefit. Islands obstructing sailing may be low benefit. Beneficial use of sediment in constructing refuges would be of high benefit to assist with navigation dredging High benefit for angling, nature watching, tourism by increased water plants, fish habitat and bird refuge areas Landscape benefit dependant on location and design

The Broads Authority have undertaken a variety of projects making use of dredged sediment on agricultural land or in projects to protect or restore eroded reed beds and river banks. A few examples of recent projects are outlined below.

## 1. Land Spreading

Where an agronomist can show there will be agricultural benefit sediment can be spread onto agricultural land as a soil conditioner. When intending to spread sediment onto land it is common practice to remove the sediment from the waterbody with a suction dredger. A cutter suction dredger typically pumps a 85% water / 15% sediment mix which needs de-watering before spreading. Settlement lagoons are an established method of de-watering and have been used many times on the Broads and a few examples are given below. Another method is to pump the sediment mix into geotextile bags which under pressure and over time allow water to drain and sediment to consolidate.

### Example 1: Barton Broad

Between 1996 and 2001 sediment was dredged from Barton Broad de-watered and spread on adjacent agricultural land.

Sediment	Volume	Dredging technique	Dewatering technique	Cost
Soft organic silt	305,000m <sup>3</sup>	Cutter suction dredger	Settlement lagoons	£10/m <sup>3</sup>



*Photo 1: Barton Broad settlement lagoons*

### Example 2: Ormesby Broad

In 2010 sediment removed from Ormesby Broad was pumped into dewatering lagoons and later spread on agricultural land on the same site.

Sediment	Volume	Dredging technique	Dewatering technique	Cost
Soft organic silt	15,000m <sup>3</sup>	Small suction dredger	Settlement lagoons	£8/m <sup>3</sup>

### Example 3: Upton Little Broad

In 2011 highly organic silt was removed from an isolated broad and pumped into geotextile bags and later spread onto agricultural land, with the geotextile recycled in erosion protection works.

Sediment	Volume	Dredging technique	Dewatering technique	Cost
Highly organic silt and algal matter	4500m <sup>3</sup>	Small suction dredger	Non-woven geotextile bags	£20/m <sup>3</sup>



Photo 2: Geotextile bags starting to be filled at Upton

### Example 4: River Bure, Coltishall Lock Channel

In 2015 soft sediment overlying a hard sand and gravel bed was removed and pumped into settlement lagoons on adjacent agricultural land. Given the granular nature of the sub soil the sediment dewatered rapidly and is awaiting spreading.

Sediment	Volume	Dredging technique	Dewatering technique	Cost
Soft organic sandy silt	2000m <sup>3</sup>	Small suction dredger	Settlement lagoons	£15/m <sup>3</sup>



*Photo 3: Constructing settlement lagoons near Coltishall*

## 2. In-line Erosion Protection

Where bank erosion is an issue structures can be installed to protect the bank and retain sediment backfill. Recently timber post and geotextile structures have been trialled in the Broads to restore and protect the original bank line and make use of sediment backfill. An example is given below.

### **Example 5: River Ant, Hall Fen**

Principally an erosion protection project involving a simple geotextile retaining structure in front of an eroding bank. Due to the layout the capacity for sediment backfill was very limited however the structure proved a backfill depth of at least 0.6m could be successfully retained.

Sediment	Volume	Dredging technique	Retaining structure	Cost
Soft silt	100m <sup>3</sup>	360 excavator	Nicospan with anchored timber posts	£65/m <sup>3</sup> (for 24m length)





*Photo 4: Nicospan erosion protection structure planted with bur-reed.*

### 3. Reed Swamp Reclamation

In some locations sediment can be beneficially used to reclaim areas of eroded or degraded reed swamp. In such areas forming a stable retaining structure on very soft ground can be difficult. Geotextile tubes and gabion baskets have recently been used as effective retaining structures as outlined below.

#### **Example 6: Heigham Sound**

In 2012 soft silts were dredged from Heigham Sound and pumped approximately 1800m to a former soke dyke on marshland. The landowner wanted to create a reedbed and the soke dyke effectively formed a ready-made settlement lagoon. This is a refinement of traditional bankside disposal.

Sediment	Volume	Dredging technique	Retaining structure	Cost
Soft organic silt	10,000m <sup>3</sup>	Cutter suction dredger	Soke dyke as ready-made lagoon	£9/m <sup>3</sup>



*Photo 5: sediment pumped from Heigham Sound filling former soke dyke.*

### **Example 7: Duck Broad**

A bespoke gabion structure has been the solution to reform the perimeter of an eroded reed bed and retain dredged sediment. The steel cage baskets are linked together to form a mass gravity structure stable on the very soft bed material. The baskets were planted with reed and then sediment pumped into the internal lagoon area to recreate the reed bed land mass.

Sediment	Volume	Dredging technique	Retaining structure	Cost
Soft organic silt	14,000m <sup>3</sup>	Cutter suction dredger	Bespoke gabions with geotextile liner and filled with dredged material	£25/m <sup>3</sup>



*Photo 6: Duck Broad Island recreation using gabion baskets*





*Photo 7: View of the perimeter baskets from the water with reed beginning to establish.*

### **Example 8: Salhouse Broad**

In 2012 sediment dredged from the River Bure was used to recreate an eroded reed swamp on the edge of Salhouse Broad. To form the reed swamp edge and retain the backfill an 8.5m diameter geotextile tube was used and pumped full of sediment in-situ using a concrete pump. The concrete pump was used as it could pump a much denser mix of sediment than a dredging pump which was necessary to form a stable mass retaining structure in the tube.

Sediment	Volume	Dredging technique	Retaining structure	Cost
Soft silt	12,000m <sup>3</sup>	360 excavator and piston concrete pump	Geotextile tube filled with sediment	£21/m <sup>3</sup>



*Photo 8: Newly restored reed swamp area retained by geotextile tube at Salhouse Broad.*



*Photo 9: View of the restored reed swamp from the water.*

**Riverbank Stabilisation and Mooring Guides**  
Report by Planning Policy Officer

**Summary:** This report presents revised guidance on riverbank stabilisation and the design of moorings and will form background evidence and steer the implementation of policies in the reviewed Local Plan. The views of the Forum are sought as part of the consultation on these guides.

## **1 Introduction**

- 1.1 The Authority has an existing guide for Riverbank Protection Works<sup>1</sup> which is over ten years old. As part of the Local Plan review process, the Authority has reviewed the guide with the intention of making the content more up to date to reflect current practice and lessons learned. The guides are intended to give would-be designers/ developers of riverbank stabilisation and moorings high level information to help inform the way forward with their design and highlight some of the common issues which such development needs to consider.

## **2 Background**

- 2.1 The original guide has been split into two guides to provide clarity between the issue of riverbank stabilisation and mooring and also to enable more information to be provided for the different structures to reflect their purpose.
- 2.2 The guides will be hosted on the Broads Authority website and produced in paper format only on request.
- 2.3 The guides are being consulted on in order to give the guides more weight in determining planning applications and potentially at any subsequent appeals. The guides will then be presented to a future Full Authority meeting for adoption.

## **3 The Consultation**

- 3.1 At the time of writing, the guides were being finalised. Information on the consultation can be found on the Authority's Consultation webpage:  
<http://www.broads-authority.gov.uk/broads-authority/how-we-work/transparency/consultations>.

Background papers:	None
Author:	Natalie Beal
Date of report:	8 July 2015
Broads Plan Objectives:	CC4.1, NA1.5
Appendices:	None

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<sup>1</sup> [http://www.broads-authority.gov.uk/\\_data/assets/pdf\\_file/0020/412832/Riverbank\\_Protection\\_Works.pdf](http://www.broads-authority.gov.uk/_data/assets/pdf_file/0020/412832/Riverbank_Protection_Works.pdf)

**Broads Plan 2011: Progress and Review**  
Report by Director of Planning and Resources

**Summary:** The Broads Plan is the strategic management plan for the Broads. The current Plan was adopted in May 2011 and the review of the Plan is a strategic priority for the Broads Authority in 2015/16.

It is anticipated that the revised Plan will be adopted in March 2017. Broad Forum members and the organisations they represent will be invited to contribute to the review process at a planned workshop in the Autumn and through other participatory events.

This report sets out a summary of progress made against the objectives in the current Plan and invites comments on issues for discussion at the Autumn workshop.

## **1 Introduction**

- 1.1 Broads Forum members will be aware that the Broads Plan is currently under review. It is anticipated that a revised Plan will be adopted in March 2017.
- 1.2 This report provides a summary of achievements to date against Broads Plan 2011 objectives (Appendix A). Full progress updates are posted regularly on the e-Plan website at [www.broads-plan.co.uk](http://www.broads-plan.co.uk). A full schedule of progress to date is also available on the Authority's website at [www.broads-authority.gov.uk](http://www.broads-authority.gov.uk)
- 1.3 As may be seen from the summary report, a wide range of activities were implemented by the Broads Authority and its many partners across all areas of the Broads Plan. It should be recognised that the Plan was produced at the start of the last Comprehensive Spending Review period, and as such we needed to balance aspiration and ambition against the likelihood that future finances would be uncertain but diminishing. As predicted, the squeeze on finances has affected public sector bodies, charitable trusts and the private sector, and the scope of key agencies working within the Broads (such as Natural England, Environment Agency, RSPB and the Wildlife Trusts) to deliver all that was originally aspired to has been a significant challenge.
- 1.4 There have also been considerable changes nationally in a number of key areas since the Plan was adopted. The introduction of new legislation in the form of the Localism Act 2011 and the raft of revisions to the planning system have been influencing factors, as has the introduction of Local Enterprise Partnerships and Local Nature Partnerships as new funding and delivery bodies at a local level.

- 1.5 The summary report shows that progress has been made against most of the objectives in the Plan. Some objectives have suffered due to a lack of resources (financial and staffing) or loss of a partner organisation, while others have proved significantly more complex or more time consuming to achieve than originally thought. As will be seen from the report, some objectives have been amalgamated or amended to take account of changing circumstances since the Plan was adopted.
- 1.6 As the Government considers its priorities for the next Comprehensive Spending Review period, the squeeze on public finances will continue. Delivering the remaining actions in the current Broads Plan and determining the strategic objectives for the next Plan will depend substantially upon making the most of external funding opportunities, continued partnership working and a flexible approach to future priorities.

## **2 Next Steps**

- 2.1 The progress and strategic direction of all Broads Plan objectives will be reviewed in line with the long-term Vision and Aims set out in the Plan. Strategic objectives to be taken forward into the next Plan period will then be prepared. The Authority will be working with partner organisations, interest groups and local communities throughout the review period. Broads Forum members and the organisations they represent are invited to contribute to the review process in a workshop in the Autumn and a wider public consultation in early-mid 2016.
- 2.2 It is not proposed to invite Forum members to comment on progress against each objective in the summary report, but feedback is invited on objectives or issues that members feel would merit particular attention at the Autumn workshop.

Background papers:	None
Authors:	Andrea Long
Date of report:	2 July 2015
Broads Plan Objectives:	None
Appendices:	APPENDIX A - Broads Plan 2011: Summary Progress Report

STRATEGIC OBJECTIVES	PARTNERS	BA	SUMMARY OF KEY ACHIEVEMENTS	ISSUES	OUTCOMES
RESPONDING TO CLIMATE CHANGE AND SEA LEVEL RISE					
<b>CC1.1</b> Promote sustainability requirements, reduction of greenhouse gas emissions and adoption of real targets for GHG emission reductions by organisations and communities <b>CC1.2</b> Record, monitor and publicly report progress towards low carbon economy	LAs / BA / NE / EA	SKH	<ul style="list-style-type: none"> <li>Sustainability initiatives promoted across tourism, land and water management, education and planning, including STEP (CC4.5), PRISMA (NA1.3), New Anglia LEP Green Economy Pathfinder, Sustainability East's Adaptation Network, Suffolk CC Green Suffolk, NCC Carbon and Energy Reduction Fund, Broads Sustainable Development Fund, The Green Blue.</li> <li>Carbon reduction targets and practices adopted by BA for corporate activities (utilities, travel, consumables, purchasing).</li> </ul>	LAs no longer required to report annual carbon reduction performance so comparisons not possible.	BA's CO2 emissions reduced by 31% prior to move to Yare House; emissions in 2015 as at 2011 baseline.
<b>CC1.2</b> – see CC1.1					
<b>CC2.1</b> Establish programme of community engagement to explain vulnerability of Broads to climate change and identify local concerns and aspirations to inform adaptation planning <b>CC2.2</b> Conduct risk-based assessments of current and future local vulnerabilities for people, nature and historic environment and publish results	LAs / BA	SKH	<ul style="list-style-type: none"> <li>Preliminary draft Broads Climate Adaptation Plan submitted to Defra (2011).</li> <li>Revised draft Broads Climate Adaptation Plan prepared and summary published for consultation (July 2015).</li> <li>Broads °Community climate adaptation engagement initiative established.</li> <li>Videos and performance arts projects on climate change in the Broads produced including 'In a Vulnerable Place'.</li> <li>Report on 'The Potential Impacts of Climate Change on the Norfolk Broads' published (UEA, 2014).</li> <li>Risk assessment and resilience planning promoted at county and regional level including New Anglia LEP Green Economy Pathfinder, Sustainability East's Adaptation Network and county resilience forums.</li> </ul>		Climate adaptation plan and Broads °Community will be used to raise awareness of climate vulnerabilities and stimulate greater debate/ involvement at local level.
<b>CC2.2</b> - see CC2.1					
<b>CC3.1</b> Progress 20-year Broadland Flood Alleviation Project (BFAP) to schedule, realising opportunities for enhancements for biodiversity, recreation and navigation <b>CC3.2</b> Develop flood risk management strategy to follow on from BFAP (i.e. after 2021), assessing advantages and disadvantages of various engineering options	EA	AC	<ul style="list-style-type: none"> <li>Broadland Flood Alleviation Project construction phase completed on schedule; maintenance phase ongoing over remaining life of project (to 2021).</li> <li>Enhancements realised including increased reed habitat, extended moorings, re-piled moorings, new easy access paths and reinstated slipway.</li> <li>Anglian River Basin District Draft Flood Risk Management Plan 2015-21 published for consultation.</li> </ul>	Decision still awaited on flood management strategy post-BFAP. Works required to meet partnership agreement to ensure no net loss of important habitat, especially grazing marsh.	Dredging disposal agreements for flood bank setback areas ensuring beneficial reuse of dredgings in reed rond creation. Significant flood defence improvements across whole project area, bringing levels back to service level defined in BESL contract. First time defence for some areas, e.g. Brundall, Chedgrave.

STRATEGIC OBJECTIVES	PARTNERS	BA	SUMMARY OF KEY ACHIEVEMENTS	ISSUES	OUTCOMES
<b>CC3.3</b> Continue to maintain existing sea defences along Eccles to Winterton frontage and develop options for progressive Medium Term Implementation Plan	EA	SKH	<ul style="list-style-type: none"> <li>Existing sea defences maintained with 'hold the line' position.</li> <li>Eccles to Winterton Shoreline Management Plan (SMP) formally agreed (2013).</li> <li>Cromer to Winterton modelling carried out to inform SMP.</li> <li>Gorleston to Lowestoft Coastal Strategy studies ongoing to inform SMP.</li> </ul>	No widespread support for alternative options.	Greater political awareness within organisations and communities of challenges for current coastal defence policy.
<b>CC4.1</b> Establish planning and design approach that enables appropriate sustainable development within Broads flood plain, including use of experimental and innovative techniques	BA / LAs	AL	<ul style="list-style-type: none"> <li>Development Management Policies DPD, Site Specific Policies DPD and revised Statement of Community Involvement prepared and adopted (Local Development Framework).</li> <li>Spatial planning policy review underway for preparation of Broads Local Plan.</li> <li>Draft guidance on Moorings and Riverbank Stabilisation produced to inform Local Plan.</li> </ul>	Detailed design guidance not produced as resources focused on producing LDF.	Updated development management and site specific policies in place giving broad design guidance and emphasising new and innovative design.
<b>CC4.2</b> Promote sustainable planning and management of water resources at catchment and regional scale	BCP	AK NP	<ul style="list-style-type: none"> <li>Broadland Catchment Partnership established and new Broadland Partnership Officer in place to coordinate strategy.</li> <li>Inaugural Broadland Rivers Catchment Plan (2014). Plan includes integrated action for management of land, water, waste water, flood risk and sustainable drainage, river channels and floodplain, recreation, understanding, investment.</li> <li>Ecosystem services and surface water flow modelling and mapping undertaken.</li> <li>'Slow the Flow' project 2015-16 underway to construct and promote demonstration Rural Sustainable Drainage Systems and further engage farmers around soil and water run-off.</li> </ul>	River habitat improvements on Waveney, Upper Bure and Wensum outlined but not delivered due to lack of funding and appropriate consents.	Improved collaboration between organisations; better knowledge exchange between practitioners, scientists, communities and farmers. Likely to lead to medium and long term improvements to water environment.
<b>CC4.3</b> Work with land managers to aid understanding of climate change impacts on their businesses and promote best practice for carbon emission reduction <b>AL1.2</b> Work with farming industry to investigate options for adaptation to climate change, including sustainable water and carbon management and appropriate cropping types Also see <b>AL2.2</b>	NE / BA / CLA / NFU	AK SKH	<ul style="list-style-type: none"> <li>Data sharing on land management of carbon stores agreed by NE and BA.</li> <li>Research carried out on modifying cropping patterns (UEA Adapt).</li> <li>Ecosystem services and surface water flow modelling and mapping undertaken.</li> <li>Agricultural economic decision support system trialled with local farmers (UEA).</li> <li>Farming and future landscapes project completed, focusing on climate change adaptation for farm businesses within protected landscapes (NFU).</li> <li>Survey of farmer values of marshes and their management undertaken.</li> <li>Technical support provided to farmers on water, soil and precision management via CSF and water companies.</li> <li>Diffuse water pollution plans and pollution risk assessments produced.</li> <li>Broadland Rivers Catchment Plan prioritising actions to safeguard water quality and retain agricultural viability.</li> <li>Waveney agri-advice catchment partnership established to co-ordinate advice and training between agronomists and land management advisers.</li> </ul>	Low engagement from farmers on climate adaptation due to short term pressures. Economic downturn limiting investment in higher risk innovation for sustainable management.	Better engagement with farmers on managing water for multiple benefits. Lower wheat prices resulting in greater interest in other grants for rural development.

STRATEGIC OBJECTIVES	PARTNERS	BA	SUMMARY OF KEY ACHIEVEMENTS	ISSUES	OUTCOMES
<b>CC4.4</b> Develop best options for expanding production of renewable energy within Broads environment	BA / LAs	LMn SKH	<ul style="list-style-type: none"> <li>▪ Landscape Sensitivity Study for Renewables and Infrastructure produced (2013).</li> <li>▪ R&amp;D on tidal energy and other renewable energy concepts funded through Broads Sustainable Development Fund.</li> <li>▪ Fen harvest biomass energy generation - see CC4.6.</li> </ul>	No investment in low impact renewable energy generation. Landscape sensitivity study findings tested at planning enquiry; insufficient weight given by Inspector.	More information on renewable energy options and associated landscape criteria, but no investment in production, possibly due to high risk costs.
<b>CC4.5</b> Promote low carbon initiatives in Broads tourism and recreation provision	BTF / BA / partners	BHa	<ul style="list-style-type: none"> <li>▪ Green Tourism Business Scheme and Green Boat Mark scheme established.</li> <li>▪ Green Traveller Guide to the Broads published (2013).</li> <li>▪ Eco-projects funded through Broads SDF including rainwater boat wash down system, electric boat conversion and charging points, energy saving building measures.</li> </ul>		Broads re-awarded European Charter for Sustainable Tourism in Protected Areas. Broads recognised in Green Tourism Awards and by International Centre for Responsible Tourism.
<b>CC4.6</b> Seek sustainable uses for recycling and reusing by-products from land and water management	CP/ NGOs	AK RR	<ul style="list-style-type: none"> <li>▪ Dredged sediment used in island/habitat creation at Salhouse Spit (winner of Green Apple Award 2014), Duck Island and Hill Common, Hickling.</li> <li>▪ Dredged sediment material used in flood defence works (Broadland Flood Alleviation Scheme).</li> <li>▪ Recycled timbers used in bank erosion reconstruction projects and in Turn Tide Jetty reconstruction; recycled materials used for surfacing options.</li> <li>▪ Research ongoing on use of biomass for biofuels and composting.</li> <li>▪ Commercial rush harvesting for arts and crafts trialled in Waveney.</li> </ul>		More recycling and reuse of dredged material for innovative restoration projects and flood defence. More use of recycled timber reducing need to import Green Heart from Africa. Sustainable rush harvesting benefiting canoe access and sensitive river management.
LANDSCAPE AND CULTURAL HERITAGE					
<b>LC1.1</b> Complete European Landscape Action Plan	BA	LMn	<ul style="list-style-type: none"> <li>▪ Broads European Landscape Convention Action Plan produced.</li> <li>▪ ELC Action Plan projects included in HLF Landscape Partnership bid (ref. LC1.2). Outputs have included landscape education pack, Great Estuary interpretation, landscape workshop at Hickling, new landscape-themed pages on BA website.</li> </ul>		Better understanding of whole landscape approach in planning and interpretation.
<b>LC1.2</b> Work with partners and local communities to develop opportunities to promote landscape management at a local valley scale	BA / partners/ community groups	LMn WB	<ul style="list-style-type: none"> <li>▪ Major first round bid submitted to Heritage Lottery Fund for 'Water, Mills and Marshes: The Broads Landscape Partnership Scheme'. Proposal involves 38 projects and 55 organisations and local community groups.</li> <li>▪ Upper Thurne Enhancement budget established to fund local community projects. Landscaping enhancements completed at Hickling Staithe, Horsey Mere, Somerton Staithe and Potter Heigham.</li> <li>▪ Landscape East developing East of England Landscape Framework and</li> </ul>		Landscape enhancement to a number of sites within the middle and upper Thurne. Local people encouraged to take responsibility for their community resource.



STRATEGIC OBJECTIVES	PARTNERS	BA	SUMMARY OF KEY ACHIEVEMENTS	ISSUES	OUTCOMES
			<p>promoting good practice in landscape protection, management and planning</p> <ul style="list-style-type: none"> <li>Support provided to local groups to encourage community management of sites.</li> </ul>		
<b>LC1.3</b> Develop comprehensive evidence base of cultural and historic landscape characterisation and assets to inform interpretation and management guidance	BA/ NCC	LMn	<ul style="list-style-type: none"> <li>Broads Landscape Character Assessment updated to include information on perceptual qualities.</li> <li>'Journey Through the Broads' interactive landscape interpretation project produced.</li> <li>Revised Broads National Character Area profile (NCA80) published.</li> <li>Broads archaeology review undertaken and statement of significance produced.</li> <li>Framework for Monitoring Environmental Outcomes in Protected Landscapes established.</li> <li>Broads Local List of Heritage Assets – see LC2.1.</li> </ul>	LCA data 2006 & 2012 not merged due to lack of staff resources.	More robust information on special qualities of the Broads including perceptual qualities.
<b>LC1.4</b> Complete survey of sites and features of geodiversity significance in the Broads	NGP	LMn	<ul style="list-style-type: none"> <li>19 sites in Broads identified in first phase of Norfolk Geodiversity Audit.</li> <li>'Ground truthing' surveys carried out at sites in Strumpshaw and Fleggburgh.</li> <li>Broads geodiversity timeline produced for education purposes.</li> </ul>	Completion of geodiversity survey and illustrated geodiversity timeline on hold due to lack of staff resources.	Improved background material available for project work and interpretation.
<b>LC2.1</b> Develop action plan for listed and locally significant buildings and scheduled monuments, informed by condition survey, and adopt strategy for their future <b>LC2.2</b> Undertake survey to identify vulnerability of heritage assets to climate change and publish advice to owners	BA / PCs/ Norfolk Windmills Trust	BHo	<ul style="list-style-type: none"> <li>Broads Local List of Heritage Assets established.</li> <li>Drainage mills surveyed and individual action plans developed for mills on Local List.</li> <li>Riverside chalets surveyed and included on Local List.</li> <li>Advice and guidance provided to owners of properties on Buildings at Risk Register.</li> <li>Broads Heritage Asset Review Group established.</li> </ul>		Number of Listed Buildings at risk reduced by 50% (2011/12 - 2014/15).
<b>LC2.2</b> – see LC2.1					
<b>LC2.3</b> Undertake two Conservation Area Appraisals (or reappraisals) per annum	BA	BHo	<ul style="list-style-type: none"> <li>Conservation Area Appraisals (or reappraisals) completed for Somerleyton, Ditchingham Dam, Langley Abbey, Oulton Broad, Salhouse, South Walsham, Halvergate Marshes, Ellingham Mill , Geldeston, Neatishead and Barton Turf.</li> <li>Further appraisals underway at Belaugh, Beccles, Trowse.</li> </ul>		Number of up-to-date appraisals/ reappraisals doubled (40% to 80%).
<b>LC2.4</b> Promote preservation, restoration and use of craft historically used on the Broads	Local interest groups and charities /	BHo	<ul style="list-style-type: none"> <li>'Bringing the Wherry to Life' project and digital archive funded by Broads Sustainable Development Fund.</li> <li>Wherries Olive, Norada and Hathor restored and pleasure wherry Ardea added to fleet (Wherry Yacht Charter Charitable Trust).</li> </ul>	Preservation and restoration limited, with most assets in private ownership.	HLF bid has identified need for heritage skills training.

STRATEGIC OBJECTIVES	PARTNERS	BA	SUMMARY OF KEY ACHIEVEMENTS	ISSUES	OUTCOMES
	BA		<ul style="list-style-type: none"> <li>Substantial remains of medieval boat uncovered on River Chet and being restored prior to going on display locally.</li> </ul>		
<p><b>LC2.5</b> Support heritage and cultural skills training and employment in traditional Broads industries</p> <p><b>AL3.2</b> Develop plan to boost reed and sedge cutting industry and develop new partnership for local sustainable products from the land</p>	BA / BRASCA	BHo AK	<ul style="list-style-type: none"> <li>First stage HLF bid successful for Stracey Arms Mill restoration project.</li> <li>Heritage skills training substantial part of HLF Landscape Partnership bid 2015 (LC1.2).</li> <li>First Broads Reed and Sedge Cutting Industry Action Plan implemented.</li> <li>Reed bed survey carried out to inform commercial cutting opportunities.</li> <li>Training, cutting contracts and equipment loans provided to reed and sedge cutters.</li> </ul>		12 reed and sedge cutters trained; 3 new cutters with traditional skills. Cutters taking on new areas of management.
<b>LC3.1</b> Improve understanding of local housing needs within Broads Executive Area	BA / LAs / Reg. Social Landlords / Rural Enablers	AL	<ul style="list-style-type: none"> <li>Greater Norwich Strategic Housing Market Assessment carried out; to include Objectively Assessed Need for Broads Executive Area by district.</li> <li>Research commissioned to inform Broads Local Plan: Local housing need for key workers, second and holiday homes.</li> </ul>	Progress limited by need to align with revised Local Plan process. OAN now proceeding.	Following revocation of Regional Spatial Strategies, Broads now producing own Objectively Assessed Needs.
<b>LC4.1</b> Work with steering group comprising designated areas in South and East to promote schemes to progress undergrounding of overhead electricity distribution cables in Broads area	BA / utilities companies	LMn	<ul style="list-style-type: none"> <li>£1.7m Waveney Valley undergrounding wires projects completed at Horning Hall and Barsham Marshes.</li> <li>Funding secured for 2015-23 tranche of projects (£247k for Cantley Marshes, £19K for Somerton, £170K for Ludham marshes). Five further schemes in development phase.</li> </ul>		3 steel towers removed from banks of River Waveney. 11 kilometres of overhead wire and 105 wooden poles removed.
<b>LC4.2</b> Seek to influence impacts of development growth beyond Broads' executive boundary recognising positive benefits to Broads and surrounding areas	GNDP / BA / LAs	AL	<ul style="list-style-type: none"> <li>BA represented on Greater Norwich Development Partnership.</li> <li>BA responded to significant neighbouring development proposals for urban regeneration, renewable energy, communications infrastructure, housing, transport distributor routes.</li> <li>Landscape Sensitivity Study produced (Ref. LC4.4).</li> <li>Norfolk Shared Strategic Framework developed under 'Duty to Cooperate'.</li> </ul>		Norfolk Shared Strategic Framework supporting better collaboration on Local Plan reviews.
BIODIVERSITY					
<b>BD1.1</b> Agree coordinated approach to influence use of resource mechanisms (e.g. agri-environment schemes) to meet biodiversity objectives	CP / BA / NBP	AK	<ul style="list-style-type: none"> <li>BA closely involved in Countryside Stewardship development via Wild Anglia.</li> <li>Mapping of expiring ES agreements and habitat areas and new NE Register of Interest used to identify pipeline for new ES advice and applications.</li> <li>See also CC4.2 - Broadland Rivers Catchment Plan.</li> </ul>		Improved targeting of limited Countryside Stewardship funds.

STRATEGIC OBJECTIVES	PARTNERS	BA	SUMMARY OF KEY ACHIEVEMENTS	ISSUES	OUTCOMES
<p><b>BD1.2</b> Review annual Biodiversity Action Plan and implement 5-year rolling programme that enhances ecosystems services</p> <p><b>BD3.2</b> Deliver partnership projects to improve chemical and biological quality of water bodies, including restoration of wetlands</p> <p><b>BD3.1</b> Develop understanding of status of water bodies and wetlands and how current actions will achieve WFD and HD targets</p> <p><b>BD4.1</b> Deliver agreed strategic management approach for Broads lake restoration</p>	CP / BA / NBP	AK	<ul style="list-style-type: none"> <li>▪ Broads Biodiversity Action Plan reviewed and Broads Biodiversity and Water Strategy implemented 2013.</li> <li>▪ Multi-partner annual Broads Biodiversity and Water Forums held.</li> <li>▪ Programme of Broads WFD projects implemented focusing on nutrient loading, diffuse pollution, septic tanks, sediment 'fingerprinting' and river restoration.</li> <li>▪ Million Ponds project created c.43 new turf ponds at How Hill, Catfield and Sutton Fen.</li> <li>▪ Comprehensive Broads Lake Review undertaken (Pub. 2015) evaluating research, monitoring and management since mid-1990s and considering climate impacts. Results informing site specific restoration methods.</li> <li>▪ Hoveton Great Broad and Hickling Broad Restoration Project initiated; funding being applied for 2016-2020.</li> <li>▪ Halvergate Marshes water management plan in development.</li> <li>▪ Reed bed habitat created through Hickling wetland creation project.</li> <li>▪ Research carried out on salinity impacts, wetland ecosystems, hydrology and water abstraction, septic tanks, biofiltration techniques, phosphate locking.</li> <li>▪ Delivery of Ecosystem Services Approach assessed as part of Biodiversity 2020 outcomes.</li> <li>▪ Abstraction licence renewals and development plans assessed in context of scientific evidence.</li> </ul>	Septic tanks and catchment input affecting outcomes of Phoslock project.	<p>Agreed vision and focus for lakes requiring further restoration.</p> <p>Management of priority habitat in accordance with WFD and biodiversity strategy.</p> <p>Improvement knowledge of ecosystems approach to inform management plans.</p>
<b>BD2.1</b> Continue to coordinate delivery of remedies relating to SSSIs in the Broads	CP	AK	<ul style="list-style-type: none"> <li>▪ Broads SSSI restoration projects and lake enhancements carried out at Barton, Ranworth, Cromes and Rockland Broads</li> <li>▪ Mapping completed of non-designated areas in Ant and Thurne Valleys meeting SSSI condition, mapping of other valleys progressing.</li> <li>▪ Multi-partner SSSI workshops held to develop site plans for delivery of SSSI Biodiversity 2020 outcomes.</li> </ul>	Diffuse pollution and drying out of fen habitat remain the main reasons for failing targets.	% of SSSI land in favourable or unfavourable/recovering condition in Broads: 88% in 2011/12 90% in 2014/15
<b>BD2.2</b> Complete survey and designation of Local Wildlife Sites including County Wildlife Sites, and consider evidence for SSSI designation	NWT / SWT / BA / NE / NBP	AK	<ul style="list-style-type: none"> <li>▪ Broads County Wildlife Site Designation Project surveyed grazing marsh, reed bed, grassland and woodland sites and designated new sites.</li> </ul>	Landowner agreement to designate land not always given.	19 CSWs (total area of 156ha) designated 2009-2014
<b>BD3.1</b> - see BD1.2					
<b>BD3.2</b> – see BD1.2					
<b>BD3.3</b> Continue (1) Trinity and Lound Partnership and (2) Brograve Partnership approach to developing integrated conservation and catchment	TLP / WMA / BP	AK	<ul style="list-style-type: none"> <li>▪ (Management of Trinity Broads passed from BA to NWT in 2014).</li> <li>▪ Trinity Broads Management Plan implemented (2012) including crassula management, fish surveys, reedbed management, HRA for boat use, nutrient reduction, scrub management, community engagement and open days.</li> <li>▪ Research undertaken on farm fire management and pesticide storage, risky</li> </ul>	Data monitoring in Brograve difficult to interpret due to poor flows or ochre laden water.	Trinity lakes changed from unfavourable recovering to favourable condition on the basis of water plants, but remain high for phosphorus.

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management and protecting water supply			waste water assets and sensitive receptor sites. <ul style="list-style-type: none"> <li>▪ Sediment removal programme (part of Review of Consents) in feasibility stage.</li> <li>▪ Brograve Partnership conducting trials and monitoring of salinity in Upper Thurne due to coastal land drainage alternations with aim to scale up to wider catchment area.</li> </ul>		Better data in place to guide effective land drain management.
<b>BD4.1</b> - see BD1.2					
<b>BD4.2</b> Manage and increase area of fen and drained marsh in accordance with agreed strategies and research base (incorporating climate change adaptation planning)	CP / land owners	AK RR	<ul style="list-style-type: none"> <li>▪ BA fen management agreements reviewed and updated.</li> <li>▪ Fen Audit reviewed.</li> <li>▪ Reed bed survey and opportunity mapping completed.</li> <li>▪ Feasibility study undertaken on opportunities for sustainable use of fen harvest.</li> <li>▪ New river edge reed swamp created at Salhouse and Heigham Sound.</li> <li>▪ 55ha of new fen created at South Fen.</li> <li>▪ New fen harvester (Softrack MkII) in operation.</li> <li>▪ Reed and sedge cutting (Ref AL3.2).</li> </ul>	Level of support and advice to landowners on fen management limited by resources	Updated fen agreements in place. Wetter fen conditions supporting wetland species. New harvester improving efficiency in programme.
<b>BD4.3</b> Research and monitor habitats to ensure restoration works are effective and to support BAP recording schemes <b>BD1.3</b> Complete and maintain species recording, reporting, auditing, mapping and species assemblage assessment approach <b>BD5.2</b> Monitor impacts of climate change on vulnerable species and habitats, including Breydon	CP / land owners	AK	<ul style="list-style-type: none"> <li>▪ Broad's Biodiversity Audit and Tolerance Sensitivity Mapping completed and status of species of conservation concern reviewed.</li> <li>▪ Annual monitoring programmes completed for fen and lake plants and species; repeat assessment of Upper Thurne habitats carried out to evaluate change over decades.</li> <li>▪ Condition surveys carried out of wet woodland, reed and fen, turf ponds, fen invertebrates, molluscs, bat and barn owl habitats.</li> <li>▪ Cuckoo migration monitoring project launched and five Broad's cuckoos satellite tracked.</li> <li>▪ Research register compiled and research projects initiated on reedswamp and fen dyke condition, sediment input and capping (Phoslock), lowland peat and carbon capture, water voles, salinity and ecology.</li> <li>▪ Catch dyke report produced, identifying opportunities for capturing good quality water for habitats.</li> </ul>		All major data sets of Broad's' species brought together for first time. 11,067 taxa recorded including 1519 priority conservation species. Multiple research projects providing valuable evidence for land and water management.
<b>BD5.1</b> Identify, survey, map and promote potential opportunities to extend, relocate, buffer and connect habitats and strengthen ecological networks	CP	AK	<ul style="list-style-type: none"> <li>▪ Habitat and ecosystem services mapping completed 'Wild Anglia' LEP manifesto 'Green Economy Pathfinder' manifesto launched, including objectives to improve and promote Broad's natural capital.</li> <li>▪ Bee line pollination mapping developed across Broad's and Norfolk.</li> <li>▪ Bird and bat boxes - Broad's Barn Owl Project (Ref. AL2.3).</li> <li>▪ Broad's Buffer area set up as an opportunity for green infrastructure funding from development.</li> <li>▪ Conservation partners providing ongoing advice to landowners.</li> </ul>		Improved habitat and opportunity mapping through green infrastructure and species projects Increase in land area and landowners provided with conservation advice

STRATEGIC OBJECTIVES	PARTNERS	BA	SUMMARY OF KEY ACHIEVEMENTS	ISSUES	OUTCOMES
<b>BD6.1</b> Produce and implement strategic eradication plans for priority invasive species and undertake monitoring and research to understand threats to native species and habitats <b>BD6.2</b> Support Norfolk Non-Native Species Initiative and local community 'days of action'	NNNSI	AK	<ul style="list-style-type: none"> <li>Awareness, training and action on management of invasive species delivered through NNNSI, Broadland Catchment Partnership and EU-funded RINSE project.</li> <li>Broads Biosecurity Communication Project set up to promote awareness of invasive species</li> <li>'Check, Clean, Dry' campaign on killer shrimp widely promoted.</li> <li>Annual programmes completed for control of giant hogweed, Himalayan balsam, Japanese knotweed, mink, feral geese, crassula helmsii, parrot's feather and floating pennywort.</li> <li>Mink management programme developed cloud database and strategic approach across Norfolk.</li> </ul>	Eradication of floating pennywort not achieved due to inherent difficulties dealing with species.	Floating pennywort control on River Waveney reducing threat to navigation, water control and conservation value. Greater public awareness of invasive species. Improved strategy for mink management across Norfolk.
AGRICULTURE AND LAND MANAGEMENT					
<b>AL1.1</b> Develop integrated policy base that recognises contribution of farming to economy, environment and quality of life	CP / NFU / CLA / land owners	SKH AK	<ul style="list-style-type: none"> <li>Joint policy response submitted by BA and NFU on future of Broads environmental stewardship and importance of protecting grazing marshes.</li> <li>ENPAA policy statement on CAP reform stressed wellbeing of farming in National Parks as essential to environmental sustainability.</li> <li>CAP reform led to revised Environmental Stewardship scheme with more targeted outcomes for biodiversity.</li> <li>NFU 'Why farming matters to the Broads' report used as focus for developing integrated farm policy.</li> <li>Research undertaken on approaches to agri-environment schemes, rural payments and intentions of grazing marsh farmers.</li> <li>Halvergate Conservation Area reappraisal provided evidence for benefits of targeted agri-environment funding.</li> </ul>	Economic downturn lessening farm business investment in marginal conservation measures.	Better understanding of ecosystem services benefits provided by farmland and how such services could generate income.
<b>AL1.2</b> – see CC4.3					
<b>AL2.1</b> Develop and implement Catchment Sensitive Farming approach to meet water quality targets required now and in changing climate	NE / EA / BA / ESW / AWS	AK NP	<ul style="list-style-type: none"> <li>CSF grants, training and advice made available for Broads priority catchments</li> <li>Wensum Alliance and Demonstration Test Catchments project assessing control of diffuse pollution from agriculture</li> <li>Research undertaken on improving coastal land drainage in Brograve Catchment</li> <li>National CSF good practice developed from management of pollution into water course following farm pesticide store fire in Trinities</li> </ul>		Over two thirds of total holding area engaged in Broadland Rivers CSF Phase 1 sub-catchments (Bure, Ant & Muckfleet; Waveney, Wensum and Yare)

STRATEGIC OBJECTIVES	PARTNERS	BA	SUMMARY OF KEY ACHIEVEMENTS	ISSUES	OUTCOMES
<b>AL2.2</b> Assess and promote best practice soil management to prevent irreversible loss of high grade agricultural land and retain carbon dioxide sequestration <b>BD1.4</b> Complete mapping and raise awareness of peat resource with local farming community	NE / BA / EA / UEA	EM	<ul style="list-style-type: none"> <li>3-D mapping of selected peat cores in the Broads undertaken.</li> <li>Guidance produced on Positive Carbon Management of Peat Soils.</li> <li>Soil carbon protection advice provided to land owners, land managers and agri-advisors.</li> </ul>	Completion of 3-D peat mapping work on hold due to lack of resources.	Land managers and agri-advisors more aware of how to protect peat soil for carbon sequestration.
<b>AL2.3</b> Develop farm based projects with additional benefits for biodiversity, flood and carbon management that could be used for offsetting and investment opportunities	EA/BA/NE/ NFU/CLA/ land managers	AK/ EM	<ul style="list-style-type: none"> <li>50+ barn owl and kestrel nesting boxes provided to landowners, along with habitat management advice (Barn Owl Project) and more than 100 bird and bat boxes put up in green spaces.</li> <li>70% grants provided for habitat improvement projects in growth areas around Norwich (Connecting Nature Fund).</li> <li>Broads included in Green Economy Pathfinder Project studies (New Anglia LEP).</li> </ul>		More breeding sites and enhanced hunting habitat for barn owls and kestrels.
<b>AL3.1</b> Target agri-environmental support and resource protection options to meet landscape, biodiversity and historic environment objectives, integrating enhancement of business targets and food production	NE / BA / land managers	AK	<ul style="list-style-type: none"> <li>RSPB's Broads Futurescape project providing land management advice and support.</li> <li>'Agri-Environment Scheme and Value of Grass Marsh in Broadland' report and 5-point action plan produced (2013).</li> <li>Halvergate and Somerton Water Level Management Plans reviewed and plans underway for significant water management scheme on Halvergate.</li> </ul>		Freshwater supply for marshes being enhanced.
<b>AL3.2</b> - see LC2.5					
<b>AL4.1</b> Promote value of local food for sustainable and healthy lifestyles	NFU / CLA /partners	BHa	<ul style="list-style-type: none"> <li>High quality locally produced food promoted through Broads Quality Charter.</li> <li>Eating Out in the Broads guide produced annually.</li> <li>Local produce featured in Broads Outdoor Festival.</li> <li>Planning underway to launch Broads Food Festival in 2016.</li> <li>NFU launched Farming Delivers campaign promoting local food.</li> </ul>		Local produce and Government health agenda more widely promoted, including through local media.
<b>AL4.2</b> Develop more opportunities for the public to visit farms and understanding farming	NFU / CLA /partners	SKH	<ul style="list-style-type: none"> <li>NFU actively engaged in public facing activities including Open Farm Sunday, Spring Fling, Farming and Countryside Education, roadshows and demonstration farms.</li> </ul>	Lack of resources limiting public impact of events.	Open farm activities ongoing but lack of resources limiting public impact.

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NAVIGATION					
<b>NA1.1</b> Review and deliver strategic sediment management in accordance with waterways specifications	BA	AC	<ul style="list-style-type: none"> <li>▪ New methodology in place to assess compliance with Sediment Management Strategy waterway specifications and prioritise future dredging programmes. Waterways specifications for each river reviewed to reflect more accurate hydrographic survey bed assessments.</li> <li>▪ Hydromorphic and engineering study of Breydon Water undertaken to inform dredging programmes.</li> <li>▪ Total of 198,258m<sup>3</sup> of sediment dredged from system between 2011/12 – 2014/15, a mean average of 49,565m<sup>3</sup> p.a.</li> </ul>		More efficient and cost effective dredging resulting from new compliance assessment methodology. Innovative sediment reuse techniques developed through PRISMA project.
<b>NA1.2</b> Seek to influence legislation/policy for sustainable sediment management on catchment scale and raise public awareness of challenges faced	BA EA /NE/ NFU	TW	<ul style="list-style-type: none"> <li>▪ Code of Practice agreed for use of D1 exemptions (deposit of waste from dredging of inland waters), allowing EA to agree Regulatory Position Statement for low risk activity.</li> <li>▪ AINA Good Practice Guide for sustainable management of dredged material from inland waterways produced.</li> </ul>		BA active in development of new good practice guidance and codes of practice.
<b>NA1.3</b> Seek additional Government funding and identify external funding opportunities to develop sustainable dredging and disposal processes and accelerate removal of backlog from system, recognising wider socio-economic benefits	BA	RR	<ul style="list-style-type: none"> <li>▪ £700K EU funded Promoting Integrated Sediment Management (PRISMA) project delivered (2011-14).</li> <li>▪ Trialling of sustainable dredging techniques, innovative reuse of dredged material (island creation schemes, new and restored reed bed habitat) and investment in infrastructure (new mud wherry and dockyard facilities) delivered through PRISMA.</li> </ul>		Multiple benefits for dredging and innovative recycling and reuse techniques through PRISMA project; budget spent with 99% accuracy. Learning shared across national and European stage and informing potential new partnership project.
<b>NA1.4</b> Seek to establish network of appropriately licensed disposal sites to ensure viability of future dredging programmes	BA	RR	<ul style="list-style-type: none"> <li>▪ Comprehensive mapping system developed to identify possible sites for sediment storage.</li> <li>▪ Land purchased at Potter Heigham and permissions sought to use for sediment; land with river frontage purchased on Lower Bure with potential for mooring and dredging reuse.</li> <li>▪ Dredged material reused in Broadland Flood Alleviation Project (BFAP) and in reed bed and river bank restoration works.</li> </ul>	BA unable to secure initial priority sites identified for dredging disposal.	Increase in land space available for sediment disposal, but more sites needed.
<b>NA1.5</b> Minimise impacts of bank erosion and provide advice and guidance to landowners on erosion protection design and best practice	BA	DH	<ul style="list-style-type: none"> <li>▪ Bank erosion survey undertaken and erosion protection projects prioritised. Works completed at Womack Island, Horsey Mere and River Ant at Irstead. Sites with planning permission gained but awaiting completion at Hickling Broad and River Bure near Coltishall. All completed sites planted with vegetation and progress monitored.</li> <li>▪ New geotextile and habitat creation schemes trialled through PRISMA project.</li> <li>▪ Fully revised planning guidance for bank protection and stabilisation drafted.</li> </ul>		Increased confidence in use of novel geotextile solutions. Monitoring of new bank plant establishment refining techniques for species planting mix and densities.

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<b>NA2.1</b> Deliver annual programmes for tree and scrub management	BA/ EA	RR	<ul style="list-style-type: none"> <li>BA annual work programmes of tree and scrub maintenance carried out.</li> <li>Partnership scrub clearance works carried out with RSPB and Broadsword.</li> </ul>		Tree and scrub clearance supporting favourable fen habitat conditions, navigation safety, erosion protection and landscape character.
<b>NA3.1</b> Implement and raise awareness of environmental standard operating procedures for aquatic plant management	BA	DH	<ul style="list-style-type: none"> <li>Environmental Standard Operating Procedures for cutting water plants updated and published on BA website.</li> <li>Protocol and methodology guidance for river surveying developed.</li> <li>Site specific method statements produced mapping areas for cutting, disposal locations and cutting specifications.</li> </ul>		Positive feedback from Environment Agency on cutting specifications and protection of fish habitat while maintaining navigational access.
<b>NA3.2</b> Maintain and extend annual programme of aquatic plant monitoring to understand impacts of management to biodiversity, recreation and navigation	BA / WQP	DH	<ul style="list-style-type: none"> <li>Annual work programmes of water plant monitoring completed, using new point survey techniques.</li> </ul>	Statistical methodology to enable comparison of previous transect data and new point data yet to be established.	Water plant data used to evaluate lake condition and restoration success in Broads Lake Review.
<b>NA4.1</b> Transfer responsibility of Breydon Water and Lower Bure into navigation jurisdiction of Broads Authority	BA	TW	<ul style="list-style-type: none"> <li>Transfer of navigation responsibility completed 1 June 2012.</li> <li>Works to improve safety signage and channel marking and layby mooring completed.</li> <li>New heavy weather patrol launch purchased &amp; year-round patrols established.</li> <li>Hydrology / sediment modelling completed to inform Turn Tide Jetty reconstruction project (in progress) and river works applications in Lower Yare and Waveney.</li> </ul>	Text service for tidal conditions trialled but not continued due to low uptake. Portable signage considered as partnership project with BHBF but no funding identified.	Improved and more integrated safety conditions for users of Breydon Water. Design and delivery of river works being informed by new hydrology modelling data.
<b>NA4.2</b> Implement Safety Management System and Hazard Review/Action Plan	BA	SBi	<ul style="list-style-type: none"> <li>Safety Management System updated in line with Port Marine Safety Code and Broads Authority Act 2009; SMS updated annually following hazard review. Annual Hazard Reviews show all hazards to be within 'ALARP' region.</li> <li>Rangers trained and active in hazardous boat checks for visiting craft.</li> <li>Boat Test Area review undertaken and conditions of use updated.</li> <li>Research undertaken on speed indicators for hire boats for inclusion in new licencing conditions.</li> <li>Links established with rowing clubs to discuss safety including use of vessels for coaching.</li> </ul>	Document Management System identified as high priority in SMS Audit 2012 but progress held up by lack of staffing resources.	All hazards remain within 'As Low As Reasonably Practicable' range. Greater transparency to users regarding management of safety on the Broads and improved engagement on understanding and managing hazards.



STRATEGIC OBJECTIVES	PARTNERS	BA	SUMMARY OF KEY ACHIEVEMENTS	ISSUES	OUTCOMES
<b>NA4.3</b> Maintain and enhance navigation patrolling function, supplemented through volunteer programmes and working in accordance with Enforcement Policy	BA	AV	<ul style="list-style-type: none"> <li>Annual compliance targets for patrolling navigation exceeded.</li> <li>Speed measurement devices fitted to day boats.</li> </ul>		Speed monitors on day boats reducing number of warnings. Number of annual prosecutions for non-toll offences unchanged.
<b>NA4.4</b> Promote navigation byelaws, Better Boating and Waterways Code information and 'super safety days' to improve responsible boating behaviour	BA	AV/ SBI	<ul style="list-style-type: none"> <li>Super Safety Days held annually and 'Wear It' lifejacket campaign launched. BHBF, NSBA and booking agents actively promoting "wear it" message.</li> <li>Broads Oil Spill Contingency Plan updated.</li> <li>Boat testing areas reviewed and new code of conduct developed.</li> <li>Norfolk Police Broads Beat team continuing to work with BA Rangers to promote good boating behaviour. Suffolk Police developing water-based policing approach, including Boatshield boat crime prevention scheme.</li> </ul>		People observed wearing lifejackets more frequently. Annual marine safety audits marine related fatalities down and now static. Boat fires continue to be low.
<b>NA4.5</b> - See TR1.5					
<b>NA5.1</b> Monitor implementation of legal agreement with Network Rail to ensure access for navigation at railway bridges	BA / Network Rail	TW	<ul style="list-style-type: none"> <li>Regular liaison meetings held between BA and Network Rail.</li> <li>Monitoring equipment installed on bridge to record levels of movement.</li> <li>'Whole life' strategy recommendations prepared for Reedham and Somerleyton swing bridges; proposals for Trowse Bridge being developed.</li> </ul>	Regular opening of Trowse Bridge still unavailable due to mechanical and electrical issues.	Network Rail allocated large budget and made considerable efforts to improve position of bridges in Broads executive area.
<b>NA5.2</b> - See TR2.2					
<b>NA5.3</b> Promote replacement of low bridges with opening/ raised alternatives where opportunities exist in capital works projects	BA / Highways Agency	TW	<ul style="list-style-type: none"> <li>Generation Park Norwich draft designs for new vehicular bridge prepared for consultation.</li> <li>Vauxhall Bridge refurbishment project completed but did not involve capital works.</li> <li>Planning permission granted for low opening bridge from Deal Ground, Norwich to Whitlingham Country Park</li> </ul>		Potential projects at planning or consultation stages.
PROMOTING UNDERSTANDING					
<b>PE1.1</b> Promote messages that define the Broads 'brand' and assist businesses, organisations and local people to play a part in representing it	BTF / BA/ tourism bodies / LAs	LMA	<ul style="list-style-type: none"> <li>BA resolution passed to use National Park name in promoting Broads area (Jan 2015).</li> <li>Enjoy the Broads tourism website refurbished and new material published.</li> <li>Britain's Magical Waterland' branding material and guidelines produced.</li> <li>Broads Outdoor Festival established in 2011 and now hosting more than 180 events over two weeks.</li> <li>Broads promoted in national campaigns including VisitEngland's 'Active Outdoors', Green Tourism, Green Traveller.</li> </ul>		Better promotion of area's National Park status and more coordinated branding of area among businesses. National promotion on high profile external platforms. Broads awarded Certificate of Excellence on TripAdvisor.

STRATEGIC OBJECTIVES	PARTNERS	BA	SUMMARY OF KEY ACHIEVEMENTS	ISSUES	OUTCOMES
<b>PE1.2</b> Further develop 'EnjoytheBroads.com' tourism website and Broads Authority website	BTF / BA	LMA	<ul style="list-style-type: none"> <li>Comprehensively redesigned BA corporate website launched in 2014.</li> <li>Enjoy the Broads website refurbished and content expanded.</li> </ul>	Full ETB website redesign delayed due to staffing resources	Enhanced promotion of Broads special qualities and work of BA and partners. Increase in visits to ETB website (from 12,000 in 2010 to 150,000 in 2015).
<b>PE2.1</b> Maintain effective network of visitor information centres serving the Broads and revise provision of on-site BA visitor information points	BA / partners	SBA	<ul style="list-style-type: none"> <li>Visitor 'hub' concept introduced for BA information centres at How Hill, Hoveton and Whitlingham. Ranworth and Beccles information centres taken on by new management.</li> <li>How Hill information centre and Great Yarmouth and Norwich yacht stations refurbished, with improved visitor information and interpretation facilities.</li> <li>New café franchise established at Whitlingham Country Park and sales strategy introduced selling ice cream and confectionary at visitor centres.</li> <li>Ra and Liana boat trips relocated as part of "hub" approach.</li> <li>Interactive touchscreens installed at How Hill TIC and Yarmouth Yacht Station.</li> </ul>	On-site BA visitor information points not progressed although touchscreen software licence provided to Herbert Woods to compensate for loss of Potter TIC.	Better engagement of young visitors through use of new interactive media. New audience for BA boat trips.
<b>PE2.2</b> Increase use and range of electronic media for information and interpretation, embracing innovative technology	BA / partners	LMA	<ul style="list-style-type: none"> <li>42" interactive visitor touchscreens installed in BA information centres.</li> <li>Facebook and Twitter accounts launched for BA and Enjoy the Broads; Broads Blog launched on BA website.</li> <li>Mobile phone visitor apps introduced.</li> <li>Broadsheet and Broadcaster publications produced in electronic format.</li> <li>Online payment system for navigation tolls established.</li> <li>Electronic BA committee papers introduced.</li> <li>E-newsletter Broads Explorer trialled.</li> <li>Seven BA podcasts and separate series produced by Future Radio promoting Broads special qualities and work of BA.</li> </ul>	Broads Explorer ceased publication due to staffing resources. Resident newsletter in different format being investigated.	Significant growth in information and interpretation available through new media, including electronic, digital and social, widening audience reach and reducing print costs. Mobile phone app allowing access to website in areas of Broads with no internet access.
<b>PE2.3</b> Increase range of audio-visual material that illustrates the cultural history and special qualities of the Broads and its communities	BA / site interpreters	LMA	<ul style="list-style-type: none"> <li>'Journey Through the Broads' interactive landscape interpretation web project produced.</li> <li>10 videos produced featuring the Broads landscape, nature, recreation, crafts and traditions, cultural history, Great Estuary story and work of the BA.</li> <li>Broads °Community climate change video produced.</li> <li>Broads promotional video produced by Visit Norfolk.</li> <li>More than 200 'Broads Wildlife Explorer' videos produced for TIC touchscreens.</li> <li>Material produced through Green Destination initiative, including series of Green Traveller videos promoting the Broads.</li> <li>Aerial view videos of Broads landscape produced.</li> </ul>	Technical issues with 'Journey through the Broads' delaying web launch.	Better access to wider range of audio-visual material about the Broads and the Broads Authority, including oral histories that may otherwise have been lost. More engaging promotion of subjects like climate change, history of the Broads and current landscape issues.

STRATEGIC OBJECTIVES	PARTNERS	BA	SUMMARY OF KEY ACHIEVEMENTS	ISSUES	OUTCOMES
<b>PE3.1</b> Meet and improve particular information requirements of visitors with special needs or who are hard to reach	BA / partners	LMA	<ul style="list-style-type: none"> <li>▪ New sensory garden developed at How Hill, funded by Airwick National Parks sponsorship.</li> <li>▪ New interpretation signage installed on easy access paths at Barton Broad and Filby Broad.</li> <li>▪ BA visitor publications made available in large print and audio versions, with special promotion in 2012.</li> <li>▪ Easier Access in the Broads brochure being updated.</li> </ul>	Broads MOSAIC initiative and Podcast publications on hold due to lack of resources.	Better access to wider range of information and interpretation about the Broads and easy access facilities. BA website achieved AAA compliance rating, the highest accessibility level.
<b>PE3.2</b> Provide opportunities for disadvantaged young people to experience the Broads environment as an essential part of learning and personal development	BEEN	NS	<ul style="list-style-type: none"> <li>• Extensive programme of environmental education provided through Broads Environmental Education Network, and supported by Broads Sustainable Development Fund, including: Forest Schools, Broads Adventure, The Sailing Challenge, Broads Discovery days, NEAD Eco-challenge, Broadening Minds, Equip on the Broads, Restart project outreach, practical conservation works, vocational training days, schools visits, woodland discovery days, film projects and living history projects.</li> <li>• John Muir Discover and Explorer awards scheme adopted.</li> </ul>		Strong collaborative working between organisations to engage disadvantaged young people, particularly through Short Stay School, Country Trust and NEAD. 2000+ young people attending Broads Discovery Days annually and 100s took up NEAD Eco Challenge. 24 John Muir awards given out since 2014.
<b>PE3.3</b> Improve coordination and delivery of high quality educational experiences in the natural environment of the Broads	BEEN	NS	<ul style="list-style-type: none"> <li>▪ Dedicated BA Education Officer appointed and first Broads Education Strategy Action Plan implemented (2012-16).</li> <li>▪ Broads Environmental Education Network (BEEN) refreshed and Action Plan implemented.</li> <li>▪ Broads Curriculum resource material produced and teacher champions established.</li> <li>▪ 'For Peats Sake' and other climate change training and material produced.</li> <li>▪ Annual programmes delivered including museums work, work experience, staff and volunteer training, schools presentations and outreach, activity taster days, interpretation projects, outreach programmes for disadvantaged young people.</li> <li>▪ BA taken on c. 20 work experience students p.a. for 1-2 week placements.</li> </ul>	Progress on some Education Strategy actions delayed and under review.	More than 40 organisations signed up to BEEN to provide educational experiences. >550 Norfolk and Suffolk schools taking part in visits to Broads (>14000 pupil day experiences).
<b>PE3.4</b> Deliver and increase opportunities for active engagement through volunteering	BA / partners	BW	<ul style="list-style-type: none"> <li>▪ New BA Volunteer Coordinator post established.</li> <li>▪ Comprehensive review of BA volunteer service and systems undertaken.</li> <li>▪ Volunteer Strategy Action Plan and online volunteer software system implemented.</li> <li>▪ BA Volunteer Leader role introduced to expand service capacity and 5 leaders trained to date.</li> <li>▪ Training provided to volunteers.</li> <li>▪</li> </ul>		Streamlined and up-to-date BA volunteer service and systems in place, with improved training opportunities.

STRATEGIC OBJECTIVES	PARTNERS	BA	SUMMARY OF KEY ACHIEVEMENTS	ISSUES	OUTCOMES
TOURISM, RECREATION AND ACCESS					
<b>TR1.1</b> Strengthen opportunities for visitors to enjoy land and water based interests including boating, angling, natural and cultural heritage, walking and cycling Also see TR2.2	BA / BTF / LAs / tourism and interest groups	AC BHa	<ul style="list-style-type: none"> <li>▪ New and refurbished infrastructure in place including 7 new visitor moorings and safety moorings, 3 slipways and canoe launch points, &gt;40 angling platforms and pads, refurbished boardwalks and viewing points.</li> <li>▪ Broads Angling Strategy revised and Action Plan implemented (2013).</li> <li>▪ New easy access bird hide built at Fairhaven Gardens.</li> <li>▪ New interpretation/promotional initiatives produced including canoe trail maps, cycle route leaflets, Green Traveller guides, smartphone visitor Apps, Wildlife Explorer touchscreens, promotional videos, Broads Outdoors Festival and events programme.</li> <li>▪ Multiple projects funded through Broads Sustainable Development Fund including entry level boating opportunities, Green Gym, tandem cycles for disabled riders, environmental education schemes, electric charging points, fishing platforms, dyke dipping platforms and mooring pontoons. Projects aimed at introducing young and disadvantaged children to boating, conservation and promoting urban and rural links featured strongly.</li> <li>▪ New restricted byway dedicated as part of Horning Hall undergrounding wires scheme, helping aspirations of 3 Rivers Way project.</li> </ul>	Broads SDF scheme closed following cuts in Government funding.	Better provision of angling access on Waveney and Thurne. Improved viewing points and boardwalks. Moorings – see TR2.2 Community projects well supported through Broads SDF and external funding streams.
<b>TR1.2</b> Support restoration, interpretation, linking and promotion of range of heritage themes and sites	BA / LAs / heritage groups and charities	BHo	<ul style="list-style-type: none"> <li>▪ St Benet's Abbey Restoration Project completed 2014 (£671k HLF funding).</li> <li>▪ Mill restoration works completed: St Olaves, Hardley, Lockgate, Tunstall Dyke.</li> <li>▪ HLF development funding awarded for Stracey Arms Mill project (Norfolk Windmills Trust).</li> <li>▪ Stubb Mill Restoration Project recognised in RTPI awards and new onsite interpretation produced.</li> <li>▪ New multi-media interpretation produced (action PE2.3).</li> <li>▪ Broads identified as Site of Exceptional Waterlogged Archaeology (EH, 2014).</li> <li>▪ Guidance provided to owners to support restoration works and protection of 'at risk' buildings.</li> <li>▪ HLF Landscape Partnership bid (Ref. LC1.2).</li> </ul>	Without constant maintenance structures can deteriorate quickly and go back onto At Risk list.	50% of Buildings at Risk removed from Register but future of mills and structures without readily identifiable use remains problematic. HLF bid seeking more sustainable model using heritage skills training.
<b>TR1.3</b> Maintain and promote year round programme of events	BA / tourism and interest groups	LMa	<ul style="list-style-type: none"> <li>▪ Annual Broads Outdoor Festival launched 2011.</li> <li>▪ BA events annual programme delivered with focus on small number of high profile events.</li> <li>▪ Broads promoted through regional and national events including London Boat Show, Broads Green Boat Show, Outdoor Adventure &amp; Travel Show, bird fairs, National Parks Picnic in the Park, Broads Outdoor Festival and VisitEngland campaigns.</li> </ul>		Popularity of Outdoors Festival promoting Broads out of season and enhancing collaborative working between local organisations. Broads profile raised at shows and prestigious platforms outside area.

STRATEGIC OBJECTIVES	PARTNERS	BA	SUMMARY OF KEY ACHIEVEMENTS	ISSUES	OUTCOMES
<b>TR1.4</b> Establish initiative for visitor support for conservation	BA / BTF / Broads Trust	BHa	<ul style="list-style-type: none"> <li>'Love the Broads' visitor giving scheme launched in 2012, administered through the Broads Trust. £22k raised over three years through c. 80 businesses signed up to scheme. Further funds raised through grants and one off donations from private individuals.</li> </ul>	Annual income not yet sufficient to sustain administration of scheme long term.	Local businesses and visitors making positive contribution to supporting local projects.
<b>TR1.5</b> Monitor and maintain appropriate zoning and management of water space and wetlands for different forms of access and recreation <b>NA4.5</b> Implement and monitor water ski review recommendations	BA / BTF / area mgt groups	AC	<ul style="list-style-type: none"> <li>Water ski zones and times on rivers Yare and Waveney amended with new permissions for recreational wakeboarding.</li> <li>Trial of water ski and wakeboarding zoning on Breydon Water ongoing following transfer of area to BA.</li> </ul>		Water ski review recommendations implemented.
<b>TR1.6</b> Examine opportunities to extend or expand navigable water space for recreation, consistent with conservation interests and flood risk management	BA / partners / area groups	AC	<ul style="list-style-type: none"> <li>Canoe access agreement for stretch between Geldeston Locks and Ellingham Mill in place.</li> </ul>	Not identified as priority in current Integrated Access Strategy Action Plan.	Geldeston to Ellingham project progressing. Other opportunities to be addressed in next IAS Action Plan.
<b>TR2.1</b> Encourage upgrading, investment and diversification in hire fleet and land-based visitor facilities and services, and associated skills training	BTF / tourism bodies / BA / BHBF	BHa	<ul style="list-style-type: none"> <li>'Know the Broads' training courses and guidance produced for tourism staff.</li> <li>Green Boat Mark scheme for hire motor cruisers implemented.</li> <li>Boat owners and operators survey carried out (2012, 2014) to inform strategic planning and communications. Stakeholder action plan put in place and hire boat operator workshop held to address issues.</li> <li>Broads Quality Charter relaunched to encourage new participants.</li> <li>Broads promoted as 'pathfinder destination' by VisitEngland.</li> <li>EU funding and increased private sector sponsorship gained to promote the Broads at national and regional events and campaigns.</li> </ul>		Stakeholder action plan working to address issues raised through stakeholder survey.
<b>TR2.2</b> Maintain programme of expansion and improvement of moorings, slipways and yacht stations, including developing provision of electric/solar shore power points, water and refuse facilities <b>NA5.2</b> Deliver enhanced demasting mooring provision in accordance with strategic priorities for mooring	BA / LAs / PCs / BHBF	AC	<p>Mooring Strategy reviewed and 10-year action plan for repiling of BA moorings implemented (2015). 7 new visitor moorings and safety moorings provided; new canoe slipways installed at Belaugh and Cary's Meadow, South Walsham slipway refurbished.</p> <p>Yacht stations refurbished with improved visitor information and interpretation. 12 new electric/solar power points installed and other points refurbished.</p> <p>Strategic review of boat waste facilities underway following changes to regulations affecting district and county collections.</p>	Gaps in mooring provision identified but not yet resolved due to unsuitable piling or difficulties with lease agreements.	Increase in number of moorings but total length of mooring decreased by 210m.

STRATEGIC OBJECTIVES	PARTNERS	BA	SUMMARY OF KEY ACHIEVEMENTS	ISSUES	OUTCOMES
<p><b>TR3.1</b> Develop integrated access strategy for the Broads, incorporating route networks linked to destination points and public transport</p> <p><b>TR3.2</b> Deliver revised County/Broads Rights of Way Improvement Plan and Rights of Way maintenance programmes</p> <p><b>TR3.3</b> Collate information and further audit work on access to the Broads for people with disabilities to inform access and rights of way improvement plans</p>	BA/ NCC/ SCC/ BLAF	AC	<ul style="list-style-type: none"> <li>▪ Broads Integrated Access Strategy implemented (2013) following comprehensive GIS mapping of access routes, links and assets.</li> <li>▪ £712K obtained from Cycling Ambition in National Parks for 3 Rivers Way cycle route.</li> <li>▪ National Coast footpath route Hopton to Sea Palling submitted for consultation</li> <li>▪ Broads ROW maintenance refocused on permissive paths and promoted routes following cut in Norfolk County Council's ROW budget. NCC managing Norfolk Trails network; remaining ROW cut on reactive basis. Suffolk ROW subject to programmed maintenance.</li> <li>▪ Audit and mapping of easy access routes and destination points carried out.</li> </ul>	Issues with lease agreements restricting progress in some identified project areas.	GIS mapping and new project initiation process providing more integrated approach to asset management.

## **Chief Executive's Report**

**Summary:** This report summarises the current position in respect of a number of important projects and events, including any decisions taken during the recent cycle of committee meetings. It does not include matters which are already on the agenda for this meeting. Members are asked to note the report.

### **1 Key Issues of the Broads Authority 15 May 2015 and 10 July 2015**

Contact Officer/Broads Plan Objective: John Packman/multiple

1.1 The Authority considered the following matters at its meeting on 15 May 2015 and 10 July 2015 and the Chief Executive will provide a verbal update.

- Membership
  - Appointment of Chairman and Vice-Chairman – *Jacquie Burgess and Peter Dixon* respectively
  - Michael Whitaker and James Knight appointed as co-opted Members to the Broads Authority from the Navigation Committee until May 2016. Co-opted members to be for a period of one year.
  - Committee Membership and Appointments to outside bodies
  - A paper on Supporting and Developing the Role of Members resulting in a Programme to include a series of Workshops to improve understanding of strategic issues facing the Authority and an agreement to review the constitution of the Broads Local Access Forum to take account of the Stakeholder Surveys highlighting the importance of land based activity.
- Lake Review Research
- Breydon Water: Water Skiing and Wakeboarding Trial Findings
- Local List Adoption: Waterside Chalets
- Construction and Maintenance Output 2015/15 and Work Programme for 2015/16
- Statement of Accounts 2014/15
- Assessment of Parish Forums

### **2 Strategic Priorities**

Contact Officer/Broads Plan Objective: Maria Conti/Multiple

2.1 Progress is being made on the five Strategic Priorities adopted for 2015/16. Details on the Hickling Broad Lake Restoration Project and Broads Plan 2011

Review are covered elsewhere on the agenda for this meeting. The proceedings from the Lake Review Workshop held on 17 April 2015 have been circulated to all participants and further details on the research are available from the Authority's website. [LakeReview](#)

- 2.2 The first round application for the Landscape Partnership Project was submitted to the Heritage Lottery Fund on 27 May 2015 and a decision by HLF is anticipated in October 2015. If successful, this will allow the Authority to enter the development phase by the end of the year and a Stage two submission about 18 months later. Further information can be found from the Authority's website: <http://www.broads-authority.gov.uk/looking-after/projects/water,-mills-and-marshes>
- 2.3 Although limited in number, this year's priorities involve major projects with significant resources that will extend beyond 2015/16. In addition to these priorities, the Authority will continue to work with partners and local communities to deliver other projects and routine operational works as resources allow.

### **3 A47 – Acle Straight**

Contact Officer/Broads Plan Objective: Andrea Long/ None

- 3.1 Members will recall that eight schemes on the A47 made it into the National Road Improvement Strategy (RIS) for 2015-21 –and that these were:
- A47/A1 dualling
  - Improvements at Guyhirn
  - N Tuddenham to Easton Dualling
  - Thickthorn Junction Improvements
  - Blofield to North Burlingham Dualling
  - Acle Straight Safety Improvements
  - Improvements at Gt Yarmouth including Vauxhall Roundabout
  - Renumbering south of Gt Yarmouth – A12 becomes A47
- 3.2 As from 1 April – Highways Agency has become Highways England a private company owned by the Government.
- 3.3 Schemes for RIS 2 – which will be 2021-2026 (Development Stage) are already being thought of – Norfolk County Council have already stated that their priority for that period is full dualling of Acle Straight and Tilney to King's Lynn Dualling. Although there is as yet no certainty about what the funding for RIS 2 will be and the process to determine which schemes will go into that programme will not begin until later in the Autumn of 2015.
- 3.4 At a meeting of the A47 Alliance held at King's Lynn on 24 June 2015, Highways England confirmed that they are currently looking at options for some of the safety measures on the Acle Straight. They are looking in particular at Paddy's Loke, the Halvergate Junction and the west bound approach to the Acle



Roundabout. The Design Stage will be Autumn 2015 with implementation of the chosen safety option in February 2016. These could include signing, lining and potentially a right turn lane at the Halvergate Junction (dependent on whether the land would need to be acquired).

- 3.5 In addition work is underway on the Species Translocation project e.g the Lesser Whirlpool Ram's-horn Snail which is a European protected Species that lives in the dyke network adjacent to the Acle Straight. This trial will take place in Summer 2015 and monitoring work will take place between 2016-18 to understand the success of the trial. This trial has been mooted for some time but has previously not gone ahead due to lack of funding and the difficulty in gaining landowner consents.

Background papers:	None
Author:	Sandra Becket / Esmeralda Guds
Date of report:	July 2015
Broads Plan Objectives:	Multiple
Appendices:	None